2010
Informatization White Paper

Republic of Korea

NIA
NATIONAL INFORMATION SOCIETY AGENCY

2010
Informatization White Paper

About NIA

NIA's 20 years of history is itself Korea's path toward national informatization.

In May 2009, the National Information Society Agency (NIA) has merged with the Korea Agency for Digital Opportunity and Promotion (KADO) keeping the name of NIA. Both agencies have been at the center of pioneering efforts in achieving 'ICT and Knowledge Information Power Korea'.

The history that NIA and KADO have accomplished during the past two decades is itself the history of Korea's national informatization. Both agencies have spared no effort to lead Korea into the present status as an ICT Powerhouse. Major achievements include building the Korea Information Infrastructure (KII), establishing e-Government, promoting new information technology application in businesses, bridging the digital divide, and developing information culture. These achievements have contributed to Korea being highly recognized by many global ICT indices. The Digital Opportunity Index (DOI) which measures the level of balance in the information society has ranked Korea as No. 1 among OECD countries for the last three consecutive years.

We believe it is time to make further contributions to solving such important national issues as economic recovery, integrating society, creating jobs, and accomplishing the low carbon green growth. Those objectives can be realized by shifting all our efforts toward the brand-new paradigm for informatization based on creativity and practicality. Now based on our experiences and know-how accumulated through the years, the National Information Society Agency is trying to expand its horizon of the future with a new vision and new mission.

We will firmly position ourselves to lead global informatization by strengthening our roles and reputation as a think tank for future-oriented national informatization.

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Publisher's Message

Over the last two decades, Korea has made utmost efforts and is now recognized as one of the most advanced information infrastructures in the world. However, the changing ICT environment today is driving Korea to explore new strategies - the mobile Internet service, which has recently shown a rapid growth from the increased use of smart phones, is deeply affecting the world; while issues such as green IT, cloud computing and IT-based convergence are addressed increasingly more than ever. Furthermore, there is also a concern that the overall ICT competitiveness of Korea is weakening these days.

Under the changing environment, Korea is striving once again for the title as one of the ICT powerhouses and has established mobile, convergence and green IT strategies based on the National Informatization Master Plan. As a result, Korea was ranked as the world's top country in terms of UN E-government Development Index, thus proving its potential for further development.

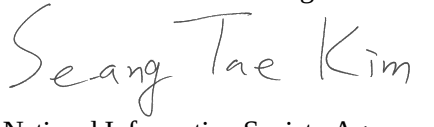
As a way of providing objective information on Korea's informatization under the rapidly changing environment, the National Information Society Agency of Korea has collected and analyzed data on a comprehensive scale and published the 'Informatization White Paper' every year since 1994.

The '2010 Informatization White Paper' provides a broad outlook of Korea's informatization and introduces each implementation plan that gives shape to the Master Plan. Moreover, it provides information on the progress status of each sector including E-government, informatization of daily life, digital economy, digital convergence infrastructure, information security, global ICT cooperation, and ICT industry. In addition, the annexed 'Key Informatization Statistics' will help understand Korea's ICT status from a more objective point of view.

I hope that this White Paper will serve as a useful reference in understanding the current status of Korea's informatization.

October 2010

Seang-Tae Kim



President of National Information Society Agency

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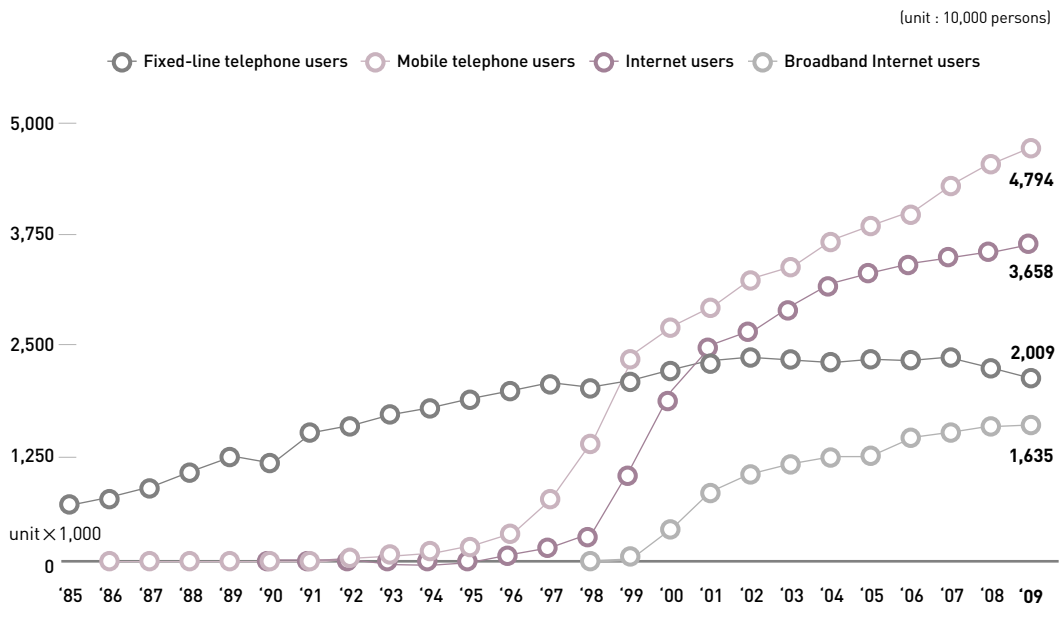
1. Overview

After two decades of striving for informatization, Korea has earned a title as one of the most advanced countries in terms of ICT. It was back in the 1990s when Korea first started to see major achievements in the ICT sector. In the early 1990s, it broke new ground in the world's mobile communications market by commercializing CDMA-based digital mobile technology for the first time in the world. In the later 1990s, the world's fastest Internet service was available in Korea thanks to a high-speed Internet infrastructure constructed nation-wide. One of the extraordinary achievements in the 1990s was the sector's rate of growth. The number of mobile phone users, which was only 1.64 million at the end of 1995, increased 14 times in 4 years and reached 23.44 million by the end of 1999. Likewise, the number of Internet users increased by a multiple of 30 times from 0.36 million to 10.86 million during this same period. The broadband Internet service expanded even faster and reached 3.70 million households by the end of 1999, only one year after service was first launched. This was the time of transition when Korea leaped from an under-developed country to one of the most advanced countries in terms of ICT.

Though there were no achievements or growth as dramatic and explosive as in the 1990s, progress still continued in the 2000s. In particular, development and use of information services improved significantly both in quality and quantity. While the 1990s were a phase for building a foundation

Figure 1 | Development of Korea's Information Infrastructure



Source : National Information Society Agency

for information service use, the 2000s were a phase for developing information services. Development achieved in the 2000s can be largely explained in three stages - E-government development (early 2000s); ubiquitous strategy mainly represented by IT839 and u-Korea (2004 and 2006, respectively); and convergence IT, which has newly drawn interests since the launch of Lee Myung-Bak administration in 2008. Each stage may overlap one another but Korea turned to the angle of informatization promotion in 2000, 2004 and 2008. The main issue in 2009 and 2010 is about global competitiveness. The reason for this is because even though Korea's E-government development was ranked at or near the top of various recent world ICT indices, its rankings in ICT infrastructure and political/economic/social environment has been declining since last year.

Table 1 Korea's Rankings in Global ICT Indices

(unit : KRW 100 million, %)

(Organization) Index	(Survey Cycle) Goal	Korea's Rank				
		2006	2007	2008	2009	2010
(UN) E-government Development Index	(December, biennial) Measures capacity and will in using E-government for ICT-based national development	-	-	6 (192)	-	**1 (192)**
(UN) E-participation Index	(December, biennial) Measures level of online participation of citizens in decision-making for public policies	-	-	2 (192)	-	**1 (192)**
(ITU) ICT Development Index	(March, annual) Measures development level of information society and information divide in each country	-	-	-	**2 (154)**	**3 (159)**
(WEF) Networked Readiness Index	(March, annual) Measures level of ICT utilization for economic development and competitiveness	14 (115)	19 (122)	9 (127)	**11 (134)**	**15 (133)**
(WEF) Global Competitiveness Index (technological readiness)	(September, annual) Measures technological competitiveness	12 (125)	7 (131)	13 (134)	**15 (133)**	**19 (139)**
(IMD) World Competitiveness Scoreboard (technological infrastructure)	(May, annual) Measures competitiveness in the area of ICT	6 (53)	6 (55)	14 (55)	**14 (57)**	**18 (58)**

Source : 1. E-government Development Index / E-participation Index: UN, 'United Nations E-government Survey 2010', April 2010.
2. ICT Development Index: ITU, 'Measuring the Information Society 2010', March 2010.
3. Networked Readiness Index: WEF, 'The Global Information Technology Report 2009~2010', March 2010.
4. Global Competitiveness Index: WEF, 'The Global Competitiveness Report 2009~2010', Oct. 2009.
5. World Competitiveness Scoreboard: IMD, 'World Competitiveness Yearbook 2010', May 2010.

Under the changing environment, Korea is striving once again for the title as one of the ICT powerhouses and has established mobile, convergence and green IT strategies based on the National Informatization Master Plan. Moreover, the Prime Minister's 'Informatization Promotion Committee' was promoted to the 'Presidential Council on Information Society' in November 2009 and is serving as a control tower, deliberating and coordinating national informatization policies.

In the area of E-government, Korea's endeavors and performance was finally recognized by the rest of the world in 2010, when Korea earned the highest scores in the 'E-government Development Index' among 192 countries surveyed by UN in 2010. In addition, many of Korea's E-government practices until now have been introduced to the world as the best cases and received worldwide acknowledgement.

Internet use in Korea is showing stable growth. The number of Internet users aged 3 and above as of 2009 was 36.58 million and the usage rate reached 77.2%.

In the area of Internet development in 2009, social networking sites prospered due to the explosion of smart phone use, and this led to the development of a variety of services specialized for mobile use. In particular, 'micro-blogging' services such as 'Twitter' received the spotlight, in which users can upload and exchange short messages through their mobile devices. Together with the diffusion of smart phones, accelerated by the launch of the 'iPhone' in Korea in November 2009, this service is expected to grow even faster in the future. In 2009, more search services were introduced than in at any other time. Portals in Korea also launched various services and joined into the fierce competition.

Korea's ICT industry in 2009 is evaluated to have maintained a good stance even as the impact of global economic downturn has been felt all over in the economy. At the end of 2008, Korean economy shrank by a significant extent but started to recover in 2009 with the government's economic stimulus package and is currently maintaining rapid growth thanks to the recovery of domestic demand and exports. Korea's ICT export volume in 2009 was affected by the global economic recession and the dropping consumer confidence in major ICT powerhouses such as China and the United States, reaching USD 12.09 million - a 7.7% decrease from the previous year.

In the communications sector, 2010 will be regarded as the first year when smart phones became popular with the explosive market growth led by iPhones and Android phones. In Korea too, the iPhone launch at the end of November 2009 sparked a boom in smart phone sales throughout the country. The Samsung Economic Research Institute (SERI) placed 'smart phones' in 5th among top 10 hit products of Korea in 2009.

In the media sector, IPTV service escaped from its long delay in the past caused by some legal issues and finally entered the stage of diffusion, strongly backed up by the amended IPTV law and the government support. As a result, the number of subscribers reached over 1 million in October 2009, 9 months since the start of service commercialization and a total of 2 million subscribers in April 2010. Following the mergers of wired and wireless communication service providers, integration of wired and wireless services was also facilitated. In June 2009, KT and KTF merged, followed by the establishment of the new integrated 'LG Telecom (or LG U+)' in January 2010, in which LG Telecom, LG Dacom and LG Powercomm were all merged.

In terms of Informatization infrastructure, projects for establishing 'Giga-Internet', Broadband Convergence Network (BcN) and IP-USN are currently all under execution with the aim of maintaining a world-class ICT infrastructure in the digital convergence environment.

In addition, information security was one area that experienced an incident on July 7, 2009 when major portals and websites of public and financial organizations in Korea and overseas were attacked by Dedicated Denial of Service (DDoS) attacks, alerting people to cyber terrors. This incident raised the awareness that with the lack of a control tower, international cooperation framework, specialized manpower and equipment, and regular management of PCs by Internet users, serious problems can occur. In this regard, the government now plans to step up preventive and responsive measures.

The year 2010 will be a time to look back at what has been achieved and find a new direction for national informatization for the next 10 years, when a completely new method of informatization promotion is required rather than the government-led implementation in the past until now. New ICT trends in which broadcasting and communications are converged and services become mobile, converged, soft and individualized are accelerating such changes in demand. As a significant turning point from informatization 1.0 to 2.0, 2010 will need a new ICT strategy focusing on convergence and communication beyond the method and scope of informatization that served as the method in the past.

2. Korea's Informatization Policy

A. Plans for National Informatization

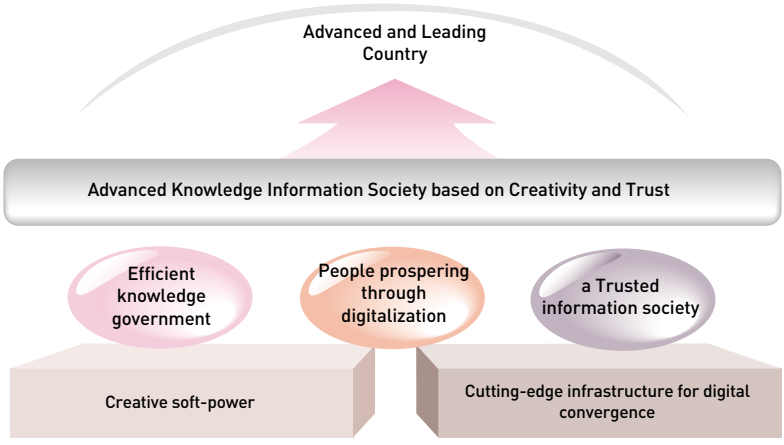
National Informatization Master Plan and Action Plan

In November 2008, Korea established and announced the 'National Informatization Master Plan (2008~2012)' with the aim of responding actively to the adverse effects of informatization promotion and adjusting to the changing policy environment and new demands from society. For the successful execution of the master plan, the 'National Informatization Action Plan' was also established in May 2009.

Under the vision of achieving an 'Advanced Knowledge Information Society Based on Creativity and Trust', the Informatization Action Plan provides two main goals - economic recovery and enhanced national competitiveness. 20 agenda items and 205 tasks are also provided in order to achieve creative soft-power, cutting-edge infrastructure for digital convergence, trusted information society, efficient knowledge government and people prospering through digitalization, all of which back up this vision.

As the action plan is put into practice, civil application services are provided one-stop, at real-time without having to visit public offices and receiving paper documents and the procedures for establishing a business have also been simplified. Such improvements in citizen convenience and

Figure 2 | Vision from National Informatization Master Plan



Source : Ministry of Public Administration and Security, 2009.

business competitiveness is expected to save KRW 7.312 trillion in social and economic costs; while at the same time, integration, maintenance, sharing and utilization of information resources are expected to save KRW 5.990 trillion in administrative costs. In other words, KRW 5.200 trillion input into national informatization will save approximately KRW 13.300 trillion in the next four years. In addition, 142,000 specialized and sustainable jobs are expected to be newly created in the area of informatization promotion.

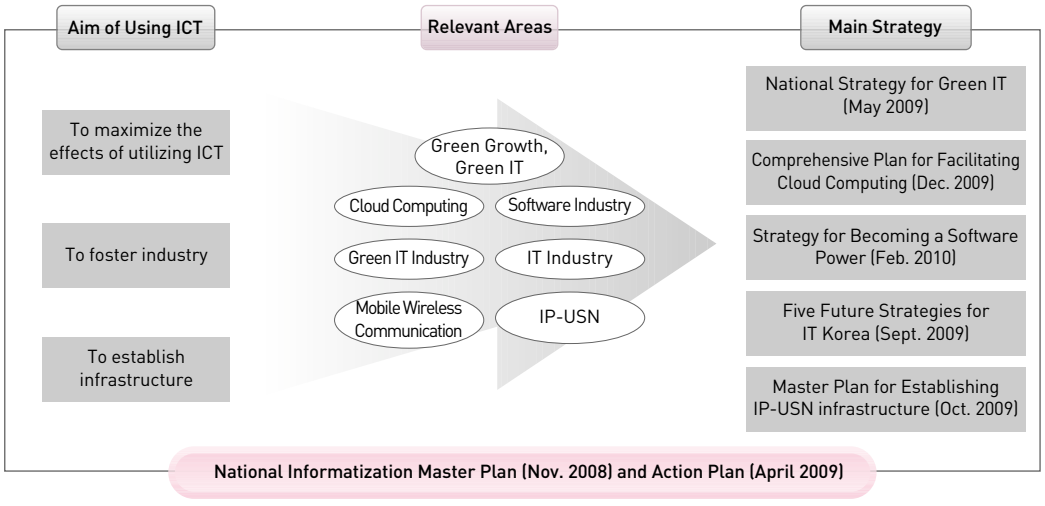
Informatization Plans by Each Relevant Area

As ICT policies are implemented independently by each government organization, plans are established according to each area of national informatization. While the 'National Informatization Master Plan' and 'National Informatization Action Plan' provide a comprehensive direction for national informatization, detailed ICT plans were also established for each relevant area of informatization.

■ National Strategy for Green IT

In line with the growing market for responding to global climate change and energy issues, green IT products and services are recognized as new growth engines. In such regard, each ministry had made plans regarding green IT only to find them inefficient in creating synergies. Against the

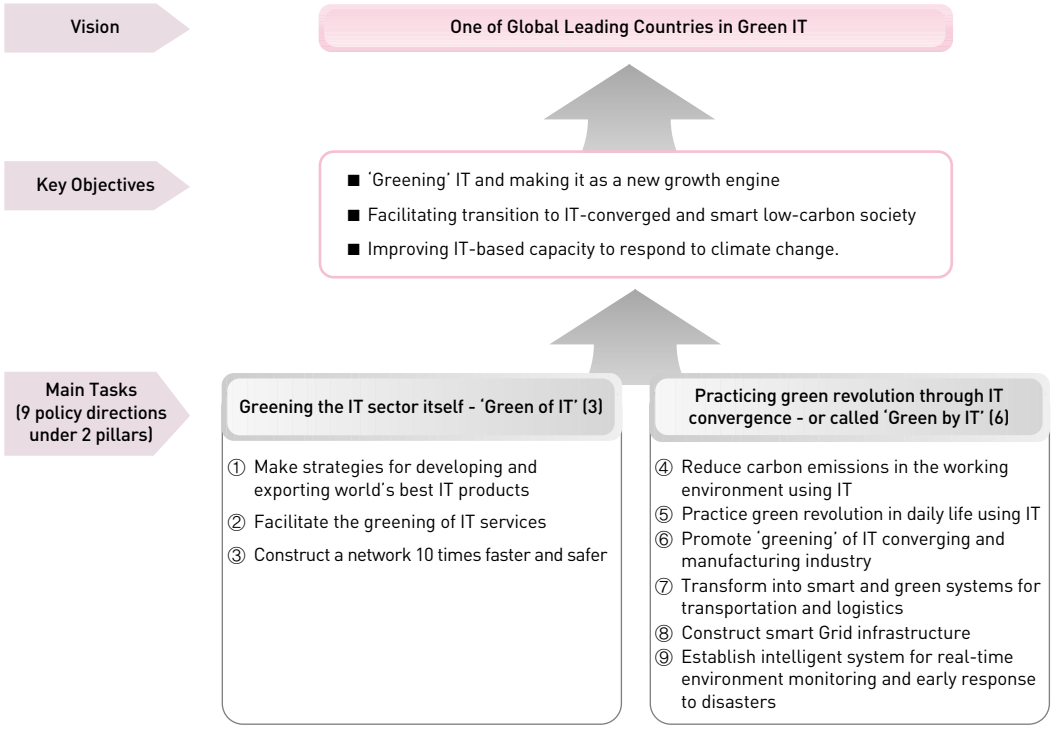
Figure 3 National Informatization Plans



backdrop, the Presidential Committee on Green Growth established the 'National Strategy for Green IT', which covers entire aspects of green IT.

The National Strategy for Green IT provides the vision of becoming 'one of the global leading countries in terms of Green IT'. The three key objectives of the strategy include 'greening' IT and making it as a new growth engine, facilitating transition to a IT-converged and smart low-carbon society, and improving IT-based capacity to respond to climate change. To back up the efforts to achieve these objectives, a total of 9 policy directions were provided - 3 for greening the IT sector itself (or called 'Green of IT' in Korea) and 6 for practicing green revolution through IT convergence (or called 'Green by IT' in Korea).

Figure 4 Vision and Objectives from National Strategy for Green IT

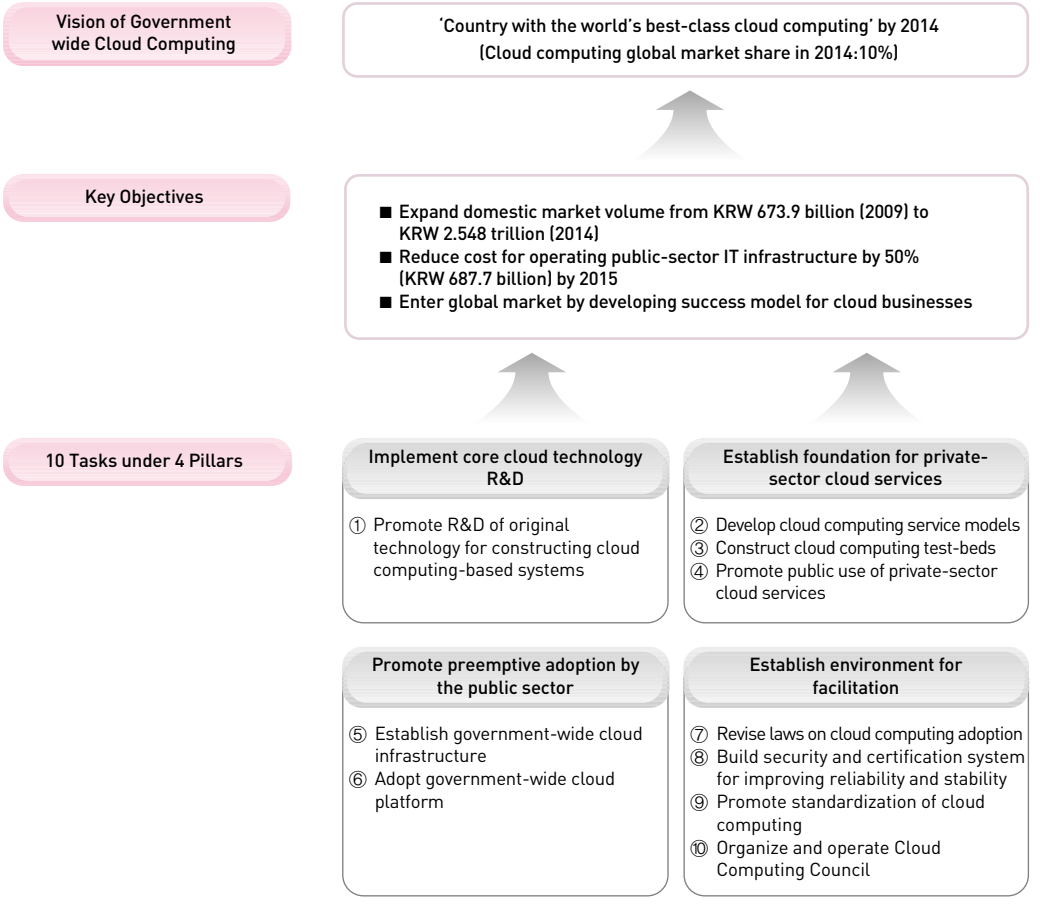


Source : Presidential Committee on Green Growth, et al. 'National Strategy for Green IT', May 2009.

■ Comprehensive Plan for Facilitating Cloud Computing

Ministry of Knowledge Economy, Korea Communications Commission, and the Ministry of Public Administration and Security together established in December 2009 the 'Comprehensive Plan for Facilitating Cloud Computing', as 'cloud computing' gained more attention as the next generation Internet business model due to its strengths in saving costs through green IT and providing fast and immediate IT services.

Figure 5 Vision and Objectives from Comprehensive Plan for Facilitating Cloud Computing



Source : Ministry of Knowledge Economy / Ministry of Public Administration and Security / Korea Communications Commission, 'Comprehensive Plan for Facilitating Cloud Computing', December 2009.

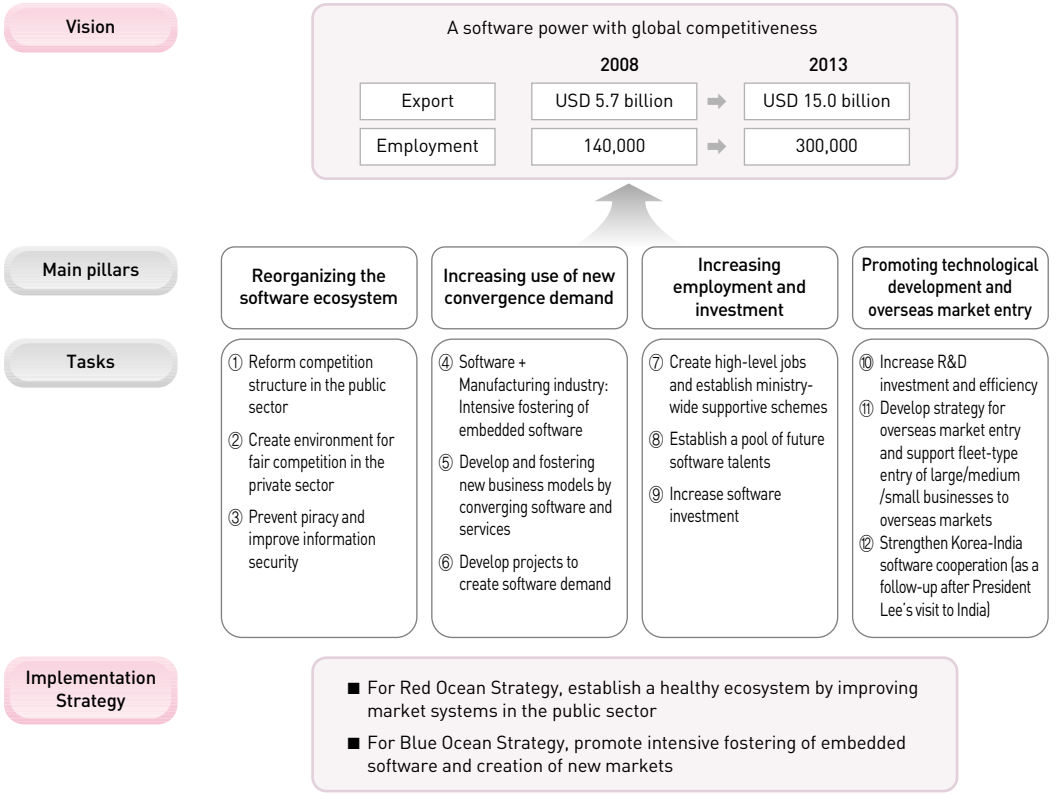
The plan sets the vision to become a 'country with the world's best-class cloud computing' by 2014 and provides 10 tasks under 4 pillars to facilitate the domestic cloud computing market.

■ Strategy for Becoming a Software Power

Based on the notion that the software industry is the key for enhancing the national and industrial competitiveness, Ministry of Knowledge Economy prepared the 'Strategy for Becoming a Software Power' in February 2010 in order for the domestic software industry, which is considered comparatively weak in global competitiveness, to leap forward.

The strategy provides a vision to become a software power through gaining global competitiveness in the software sector. Backed up by 12 tasks under 4 pillars - reorganizing the software ecosystem,

Figure 6 Vision and Objectives from Strategy for Becoming a Software Power



Source : Ministry of Knowledge Economy, 'Strategy for Becoming a Software Power', February 2010.

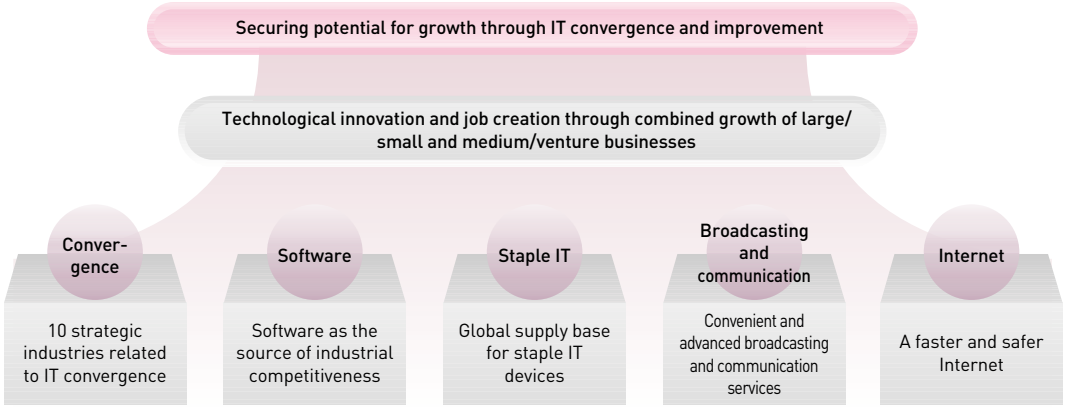
creating demand for software convergence, fostering software talents, and improving software technological capacity the strategy aims to achieve USD 15 million in exports and adding 30,000 jobs to strengthen Korea's domestic employment by 2013.

■ Five Future Strategies for IT Korea

Based on the notion that 'IT is the power in the future', the Presidential Council for Future and Vision established and announced in September 2009 the 'Five Future Strategies for IT Korea' as a blueprint that incorporates the government's future visions and action plans for the ICT industry.

The strategies are based on the premise that all objects in the future will be networked (IP-USN), which will further lead to a revolutionary change in the way people live and a paradigm shift in the industrial sector where ICT and other industries will be converged. The strategies consist of five pillars - convergence, software, staple IT, broadcasting and communication, and Internet.

Figure 7 The Lee Administration's Vision and Strategies Portrayed by the Five Future Strategies for IT Korea



Source : Presidential Council for Future and Vision, et al. 'Five Future Strategies for IT Korea', September 2009.

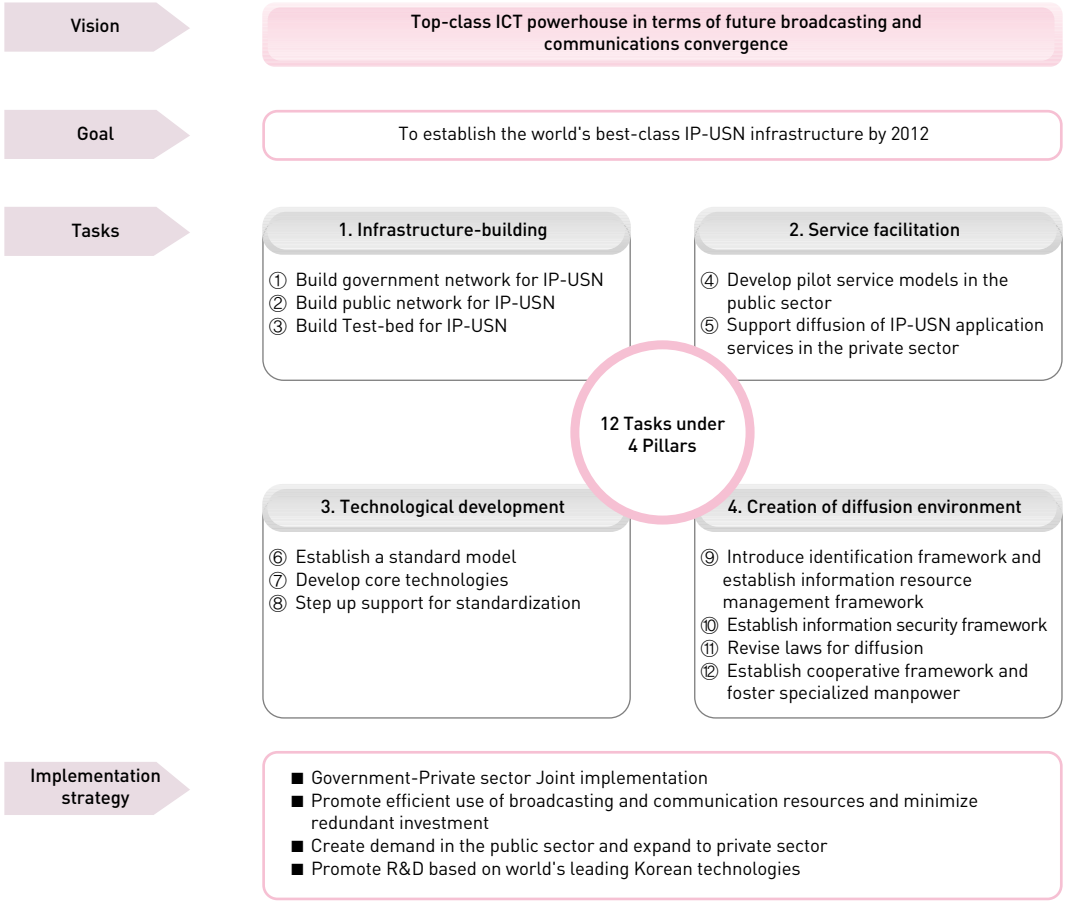
■ Master Plan for Establishing IP-USN (M2M) Infrastructure

In need of a comprehensive policy to avoid redundant investment through the efficient use of broadcasting and communication infrastructure and to support other national policies such as promoting green growth, responding to climate change and preventing disasters, the Korea

Communications Commission established the 'Master Plan for Establishing IP-USN Infrastructure' in October 2009. The IP-USN infrastructure will serve as the basic ICT channel for convergence between broadcasting and communications in the future.

Under the vision of realizing the top-class ICT powerhouse in terms of future broadcasting and communications convergence, the plan aims to establish the world's best-class IP-USN infrastructure by 2012. In addition, 12 tasks under 4 pillars - infrastructure-building, service facilitation, technological development, and creation of diffusion environment - were provided for better implementation of the plan.

Figure 8 Vision and Goal from the Master Plan for Establishing IP-USN Infrastructure



Source : Korea Communications Commission, 'Master Plan for Establishing IP-USN Infrastructure', October 2009.

B. Informatization Promotion Framework

Launch of Council on Information Society

In order to provide a new vision for national informatization and coordinate national ICT policies after the government reorganization, the Council on Information Society officially was established in November 2009. Composed of both public and private members, the Council has been promoted and set as a group under the President from the 'Informatization Promotion Council' in the Prime Minister's Office.

The Council on Information Society is the top authoritative body that deliberates on national informatization master plan and action plans, adjusts relevant policies, fosters information culture and carries out projects for closing the digital divide. Moreover, it serves as the national ICT control tower by developing and promoting future-oriented policy agenda in order to lead the country to become an advanced knowledge information society.

Figure 9 | Organization of Presidential Council on Information Society

Source : Presidential Council for Future and Vision, et al. 'Five Future Strategies for IT Korea', September 2009.

Structure and Responsibilities of Council on Information Society

■ Presidential Council on Information Society (CIS)

Established under the President, the Council on Information Society serves as the control tower for overseeing and coordinating national ICT projects. Main responsibilities of the CIS include deliberating on the national informatization master plan and other action plans; adjusting relevant policies; fostering information culture; deciding priority projects for closing the digital divide; deliberating on mid- and long-term plans for knowledge information resource management; and designating knowledge information resources.

The Prime Minister and private sector expert Lee Kark Bum (Professor of KAIST) are the co-chairmen of the Council. Supporting them are 31 members - 15 government officials and 14 private sector ICT experts. Among the government officials serving as the Committee members, 4 are from legislative bodies, 9 from central administration and 2 from local administration.

■ Working Committee on Information Society (WCIS)

Working Committee on Information Society reviews the agenda prior to their proposal to CIS and deliberates the agenda commissioned by CIS. Vice Minister II of the Ministry of Public Administration and Security and private sector expert Lee Chul Su (Professor of Kyungwon University) are the co-chairmen of the Committee and there are 25 members - 11 high-level officials of the central ministries and 12 private sector experts. Under the Working Committee are 10 Professional Committees that develop and organize detailed agenda items.

■ Professional Committees

Professional Committees establish implementation plans, develop projects and inspect on how the projects are progressed. Chairmen of the Professional Committees are invited and appointed among working members, who are private sector experts and government officials recommended by the chairmen. Each of the advisors to the Professional Committees are from the ministries in charge, and should there be more than one advisor to a Committee, they can all participate as a consultative group or the chairman can appoint just one of them as the advisor.

There are 10 Professional Committees under operation as of May 2010 for the areas of knowledge information resource management, Smart Work, ICT industry, service improvement, digital

convergence infrastructure, E-government, international cooperation, safe information society, and information security, etc.

Table 2 | 10 Projects and Implementation Framework for National Informatization

Project			Implementation Framework	
Strategic Goal	Project Description		Relevant Ministry	Professional Committee
Build foundation for national development through advanced ICT	Construct integrated national knowledge information infrastructure	• Establish institutional framework for facilitating use of national knowledge information • Build infrastructure for connecting and using national knowledge information • Modify management system to enhance the quality of national knowledge information	(A) MOPAS, MCST, KCC, MEST, MOSF	Knowledge information resource management
	Build foundation for low-carbon green growth	• Establish new intelligent SOC using convergence technologies	(A) MLTM, MOPAS, MKE, KCC, MOSF, PCGG	Smart Work
		• Reform the way of working through Smart Work facilitation	(A) MOPAS, MLTM, MKE, KCC, MOSF, PCGG	
	Foster new ICT industry	• Develop and implement strategies that converge traditional industry and ICT • Establish foundation for industry development through software industry reform	(A) MKE, KCC, MEST, MLTM, MCST, MOSF	ICT industry
		• Establish foundation for creating world-class contents	(A) MCST, MOPAS, KCC, MLTM, MOSF	
	Improve service industry through ICT	• Build foundation for Health-care service using ICT	(A) MOHW, KCC, MOSF	Service improvement
		• Step up competitiveness in education through informatization	(A) MEST, KCC, MOSF	
		• Develop and diffuse services converging broadcasting and telecommunications	(A) KCC, MOPAS, MOSF	
Increase citizen convenience and national competitiveness by achieving advanced information society	Construct next generation ICT infrastructure	• Facilitate mobile services • Improve and increase efficiency of national backbone information network	(A) KCC, MOPAS, MOSF	Digital convergence infrastructure
		• Construct ICT-based intelligent SOC	(A) MLTM, (A) KCC, MKE, MOSF	
	Improve E-government system	• Provide vision for next generation national informatization • Promote integration of E-government services • Establish mobile-based administration	(A) MOPAS, KCC, MOSF	E-government
	Step up international cooperation in ICT	• Increase international cooperation in terms of ICT • Establish strategy and supportive scheme for exporting informatization know-how • Improve national image as the ICT leader through international events	(A) MKE, (A) KCC, (A) MOPAS, (A) MOSF, MLTM, MOFAT	International cooperation

Table 2 | 10 Projects and Implementation Framework for National Informatization

Project			Implementation Framework	
Strategic Goal	Project Description		Relevant Ministry	Professional Committee
Improve social welfare and integration through ICT	Establish safe information society	• Strengthen systems for preventing and responding to cyber incidents • Step up institutions and management system for privacy protection • Build foundation for social security using ICT	(A) MOPAS, (A) KCC, MOHW, MLTM, MCST, MOSF	Safe information society
	Establish digital welfare environment	• Build clean cyber environment • Establish environment where information is accessible by all • Build foundation for autonomous information culture	(A) MOPAS, (A) KCC, MOHW, MOSF	Information culture / closing digital divide
	Strengthen information security system	• Develop and implement schemes to improve information security in national/public organizations	(A) NIS, MLTM, MOSF	Information security

MOPAS (Ministry of Public Administration and Security); MCST (Ministry of Culture, Sports and Tourism); KCC (Korea Communications Commission); MEST (Ministry of Education, Science and Technology); MOSF (Ministry of Strategy and Finance); MKE (Ministry of Knowledge Economy); PCGG (Presidential Committee on Green Growth); MLTM (Ministry of Land, Transport and Maritime Affairs); MOFAT (Ministry of Foreign Affairs and Trade); MOHW (Ministry of Health and Welfare); NIS (National Intelligence Service)

Note: Ministries with (A) are advisors to Professional Committees. Should there be more than one advisor toa Committee, they can all participate as a consultative group or the chairman can appoint just one of them as the advisor.

3. E-government

A. E-government Strategy

Korea's informatization began in the late 1970s, when major administrative business processes were computerized in the areas including resident registration, real-estate and vehicles. In the 1990s, the focus of informatization shifted to unit-based or function-based processes such as those for passport, patent and procurement administration. From 2000, it was about building a government-wide infrastructure for E-government, for which 11 initiatives and 31 roadmap projects were implemented.

The E-government promotion led to enhanced efficiency of public administration by stabilizing electronic processing of government work, and improved economic feasibility, expertise and security of government resource management by constructing government-wide data centers and integrating government information systems. Moreover, it led to reduction of document submission for civil service application by a large extent and increased convenience and participation of citizens in policy-making by providing portal services for civil application or enabling interaction with public offices without having to visit these offices in person.

Table 3 History of Korea's e-Government Promotion

Phase	Period	Event	Achievement
First Introduction	1978~1987	Computerization of Administrative System	• 1st and 2nd phase Administrative System Computerization Projects (1978~1986)
	1987~1996	Construction of National Backbone Network	• 1st and 2nd phase National Backbone Construction Projects (1987~1996)
Foundation Building	1996~2000	Informatization Promotion	• Foundation-building for High-speed Information and Communications (1995~2005) - Constructed optical transmission network in 144 zones nation-wide • Unit or function-based Informatization - Procurement, passport, patent, customs, etc.
Project Initiation	2001~2002	11 Initiatives for e-Government	• 11 initiative tasks for electronic civil application, e-procurement, etc. • Partial and limited connection between unit tasks
Growth	2003~2007	31 Roadmap Projects for e-Government	• Implemented 31 e-Government roadmap projects under participation of multiple ministries (2003~2007) • Amendment of e-Government Act (Jan. 2007)
Maturity	2008~	Expansion of Integration and Connection	• e-Government promotion based on utilization and integration • Expansion of target organizations to administrative institutions, public offices, and some private-sector organizations • Unification of frameworks for national informatization and E-government implementation

Based on the progress of informatization promotion in each ministry and the level of E-government development, President Lee Myung-Bak administration, inaugurated in 2008, is now pursuing quality management by the maturing of E-government through a shift of focus from 'promotion' and 'construction' to 'utilization' and 'connection'. In this regard, the frameworks for national informatization and E-government implementation were unified under the control of Ministry of Public Administration and Security with improved legal systems.

The weight and value of E-government implementation have changed from enhancing efficiency of public administration through computerization of government works until the 1990s to increasing satisfaction and active participation of citizens into policy-making since the 2000s. Today, E-government is established and considered as the government's key management system that serves as an infrastructure for developing and improving the foundation for a democratic society and national competitiveness.

The National Informatization Master Plan, finalized in November 2008, provides five main goals for achieving an 'advanced and leading country', including the E-government goal - 'efficient knowledge government'. The 'efficient knowledge government' provides services that can communicate with the citizens and support substantial value-creation of citizens and businesses. It also integrates and interconnects information systems of the entire departments and ministries in order to provide customer-oriented services and while making operations more efficient. In terms of quality, the plan aims to increase the E-government usage rate from 41% in 2007 to 60% in 2012 and climb three notches in UN E-government Index rankings from 6th to 3rd. However, the E-government usage rate in 2009 was up to 60.2% and Korea ranked the top in the E-government Development Index in April 2010, already exceeding the goal initially specified in the plan.

B. E-government Level and Status

After going through continuous efforts in e-Government and national informatization, Korea has become one of the global E-government leaders - obtaining the highest scores in 'E-government Development Index' and 'E-participation Index'. Korea's E-government Development Index ranking assessed by the United Nations improved from 15th in 2001 to the top in 2010 out of 192 countries worldwide, and its E-participation Index ranking was also ranked 1st in 2010. In the area of online services, Korea has achieved a level of 78% of services online, of which 62% have exceeded the stage of 'Connected' services.

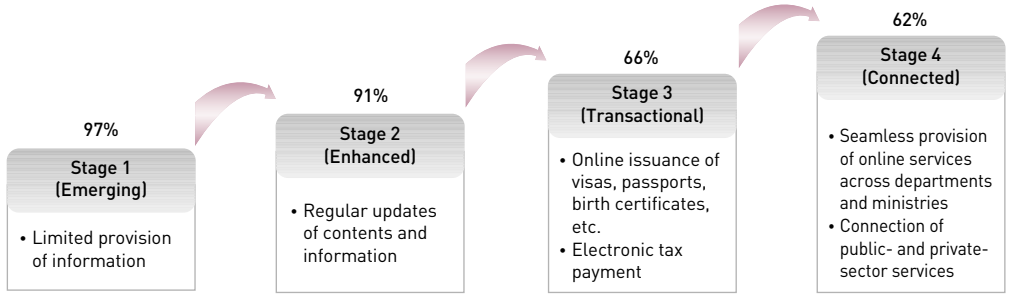
In addition, the level of Korea's informatization is highly recognized by the world, as can be seen from the fact that Korea has ranked 1st for three consecutive years in ITU's Digital Opportunity Index. The results of Korea's e-Government services are selected as the best practices and their

Table 4 UN e-Government Development Index Rankings

Country	Ranking by Year						Rank Difference (2001~2010)
	2010	2008	2005	2004	2003	2001	
Korea	**1**	**6**	**5**	**5**	**13**	**15**	**▲ 14**
US	**2**	4	1	1	1	1	▽ 1
Canada	**3**	7	8	7	6	6	▲ 3
UK	**4**	10	4	3	5	7	▲ 3
Netherlands	**5**	5	12	11	11	8	▲ 3
Norway	**6**	3	10	10	7	5	▽ 1
Denmark	**7**	2	2	2	4	9	▲ 2
Australia	**8**	8	6	6	3	2	▽ 6
Spain	**9**	20	39	34	29	16	▲ 7
France	**10**	9	23	24	19	14	▲ 4
Singapore	**11**	23	7	8	12	4	▽ 7
Sweden	**12**	1	3	4	2	11	▽ 1
Germany	**15**	22	11	12	9	10	▽ 5
Finland	**19**	15	9	9	10	13	▽ 6

Source : UN, 'e-Government Survey', 2001~2010.

Figure 10 Stages of Online Service Development Conceptualized by UN



Source : UN, 'E-government Survey 2010', April 2010.

excellence is being acknowledged by the rest of the world. For example, with the e-Customs system called UNI-PASS that was established to complete an online export and import system for the first time in the world, Korea Customs Service won the WCO (World Customs Organization) Trophy in 2006 for intellectual property right protection with the fastest customs system among 169 member countries.

Korea Online E-procurement System, or KONEPS, won the United Nations Public Service Award (PSA), and was selected by OECD as one of the best cases for improving transparency, and won the 'Global IT Excellence Award' from World Congress on Information Technology (WCIT) in 2006. Moreover, there have been an increasing number of developing countries that are planning to learn from Korea's case by benchmarking it for their own respective countries. Achievements are also significant for other E-government systems - Home Tax Service, an online tax service in Korea, was introduced as one of the best models by OECD and, the 'e-People' website for online participation of citizens was selected as one of the top 10 services for online politics in 2006 World E-government Forum.

Table 5 International Acknowledgement for Korea's E-government Systems

System	Operation	Organization	Acknowledgement	Year
KONEPS (E-procurement)	Public Procurement Service	UN	Public Service Award	2003
		OECD	Best practice for improving transparency	2004
		WCIT	Global IT Excellence Award	2006
UNI-PASS (online customs service)	Korea Customs Service	UN	Best practice for anti-corruption	2001
		WCO	Trophy for IPR Protection	2006
		AFACT	e-Asia Award	2007
Home Tax Service	National Tax Service	OECD	Best practice for online tax administration	2006
E-People	Ministry of Public Administration and Security	World E-government Forum	Top 10	2006

4. Informatization of Daily Life

A. Internet Usage

Internet Usage Rate and Number of Users

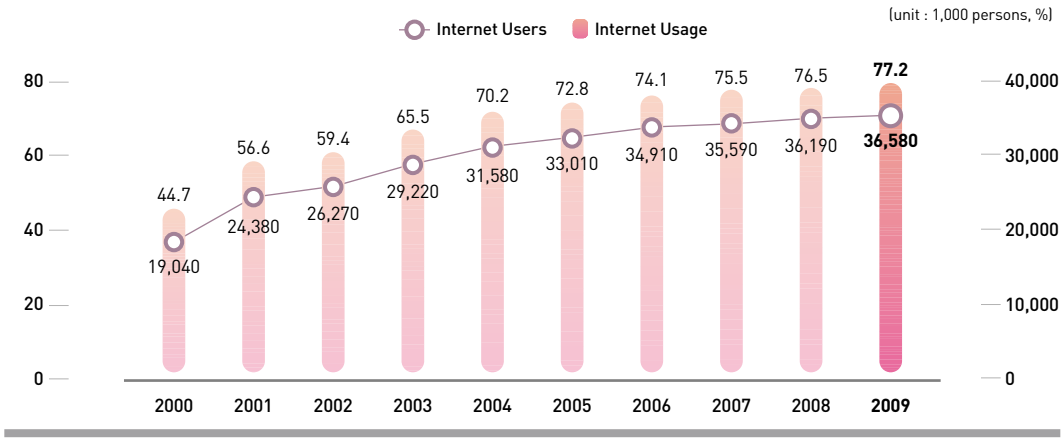
The Internet usage in Korea is constantly increasing and as of 2009, the number of Internet users aged 3 and above is 36.58 million (usage rate 77.2%). The number of those aged 6 and above reaches 35.74 million (77.6%).

Table 6 | Internet Usage Rate and Number of Users

	Age 3 and above	Aged 3~5	Age 6 and above
Internet Usage Rate (%)	77.2	61.8	77.6
Number of Users (1,000 persons)	36,580	840	35,740

Source : Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Figure 11 | Internet Usage Rate and Number of Internet Users



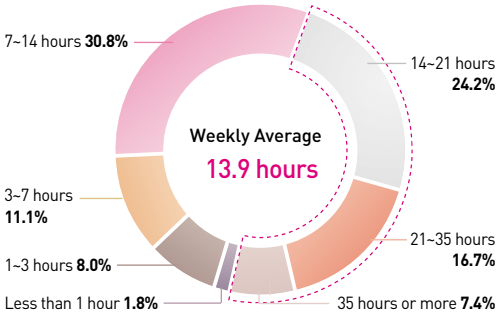
Note: The population surveyed was expanded to those aged 3 and above from 2006 (2000~2001: age 7 and above; 2002~2005: age 6 and above).
Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Internet Usage Status

According to the survey carried out by Korea Communications Commission and Korea Internet and Security Agency, Korea's Internet users spend an average of 13.9 hours per week and almost a half of the Internet users (48.3%) use the Internet for at least 14 hours a week.

The main purposes of using the Internet are 'obtaining information (89.4%)', 'enjoying leisure time - music, games, etc. (88.4%)' and 'communicating via email, chatting, etc. (87.0%)'. Other purposes included 'buying and selling via the Internet (56.4%)', 'learning (52.5%)', 'maintaining homepages (blogs and mini-hompi's) (44.8%)', 'participating in online communities (cafes and clubs) (43.8%)'.

Figure 12 Weekly Average Time Spent on the Internet (Age 3 and above)



Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

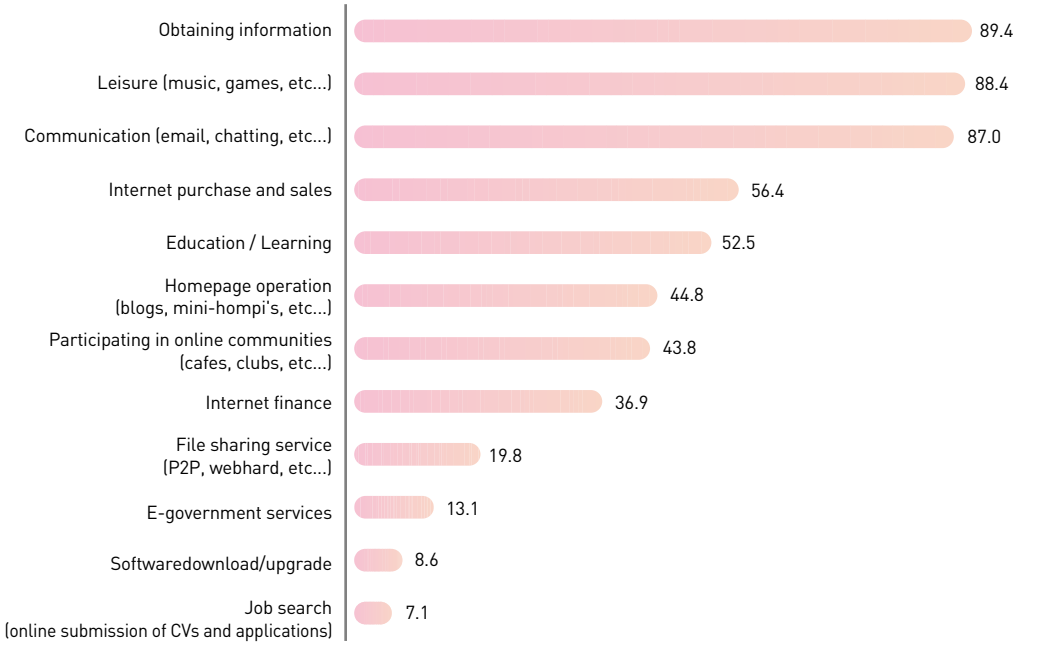
Internet and Communication

In the area of communication through the Internet, 85.2% of the Internet users are 'e-mail users' who have used email services within the last one year and 51.0% of them have used the instant messenger services within the last one year.

Moreover, 59.7% of the Internet users are 'blog users' who have used other persons' blogs within the last one year and 44.6% are 'bloggers' themselves who have visited and managed their own blogs within the last one year.

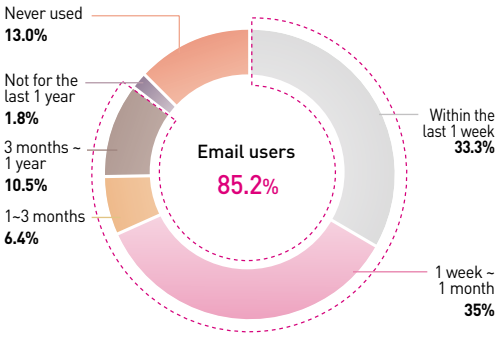
Figure 13 Purpose of Using the Internet (multiple answers) (Age 3 and above)

(unit : %)



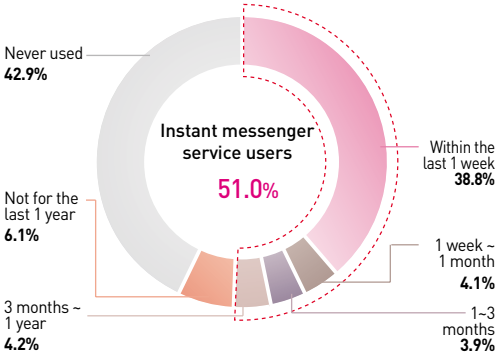
Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Figure 14 Time Spent Using Email Service (Age 6 and above)



Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Figure 15 Time Spent Using Instant Messenger Service (Age 6 and above)

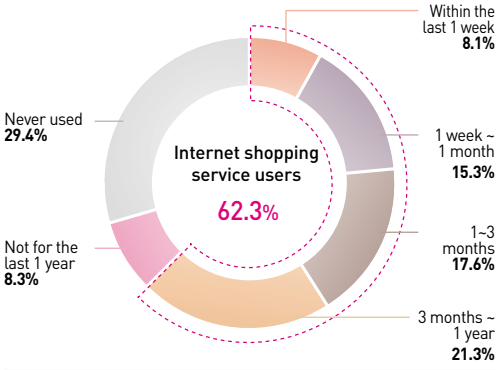


Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Internet and Economic Activities

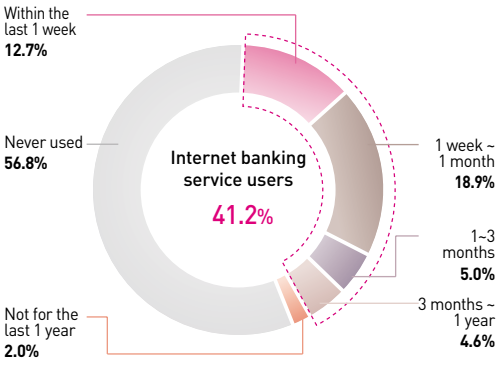
In terms of economic activities on the Internet, 62.3% of the Internet users are 'Internet shopping service users' who have purchased (including advanced purchase and booking) products or services via the Internet within the last one year.

Figure 16 Time Spent Using Internet Shopping Services (Age 12 and above)



Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Figure 17 Time of Using Internet Banking (Age 12 and above)



Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

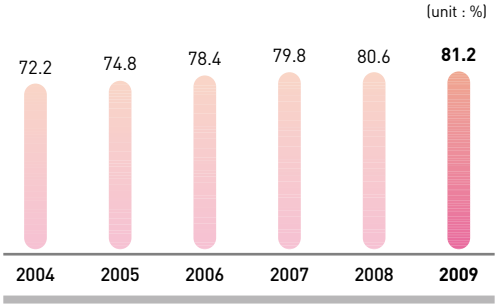
41.2% of the Internet users are Internet banking service users and 9.0% of the Internet users aged 18 and above are 'Internet stock trading service users' who have traded stocks via the Internet for the last one year.

Internet Usage Environment

As of 2009, the Internet access rate in Korean households is 81.2%, which is a 9.0% point-increase for five years since 2004. The main method for Internet access is through 'xDSL' with a share of 75.6%, while others are also used - 'optic LAN (including apartment LAN and FTTH) (27.0%)' and 'cable modems (25.0%)', and 'wireless LAN (8.3%)'.

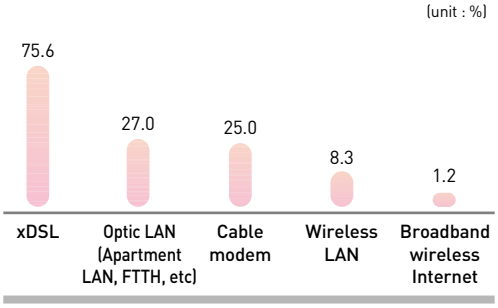
In terms of the Internet usage environment for individuals, most of the Internet users aged 3 and above (98.4%) use 'desktop computers' to access to the Internet, while 70.1% use 'mobile phones' and 29.0% use 'laptop computers (including UMPC, netbooks, etc.).

Figure 18 Household Internet Access Rate



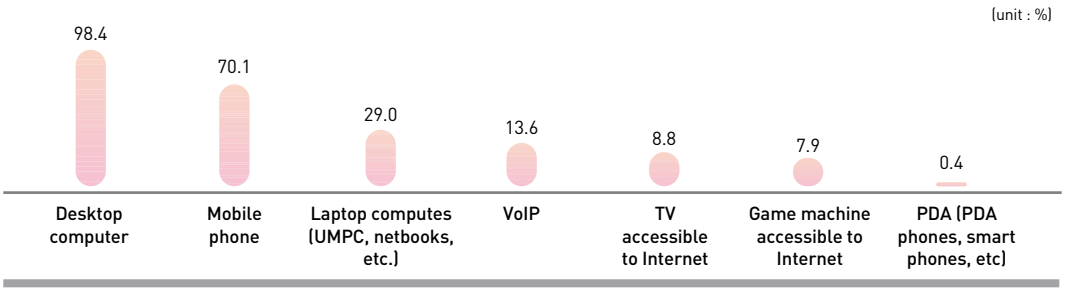
Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Figure 19 Household Internet Access Method (multiple answers)



Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Figure 20 Internet Access Device (multiple answers) (Age 3 and above)



Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

Wireless Internet Usage

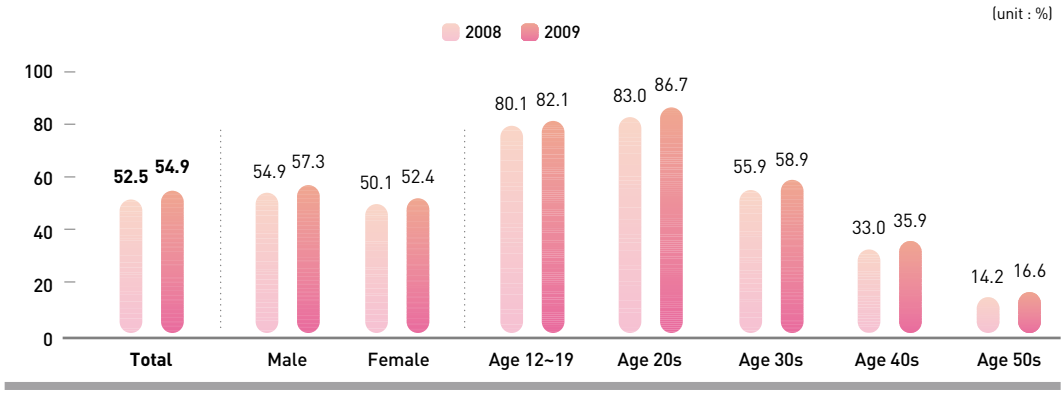
According to the '2009 Status Survey on Wireless Internet Usage' from Korea Internet and Security Agency, the wireless Internet usage rate in Korea is 54.9%, a 2.4% point-increase from 52.5% in 2008.

The wireless Internet service can be largely divided into mobile wireless Internet, wireless LAN (Wi-Fi) and wireless broadband Internet (WiBro or WCDMA/HSDPA). The rate of mobile wireless Internet usage increased 2.0% point from the previous year and reaches 52.6%. The rate of Wi-Fi usage is 9.2% (as of September 2009), showing a significantly smaller share compared to the rate of mobile wireless Internet use. As for the wireless broadband Internet, which is now in the service expansion stage, 2.7% of Internet users aged 12~59 are using the service.

When asked about the intention to use the wireless Internet service in the future, 72.3% of the respondents aged 12~59 said that they have the intention to use it and 96.4% of those who are currently using the wireless Internet service said they would.

For 2009, it was an important turning point for Korea in the area of wireless Internet service. Korea Communications Commission announced the 'Plan for Facilitating Mobile Internet' in March 2009, followed by the 'Plan for Facilitating Mobile Internet II' which provides action plans to further develop from a mobile communication network-based mobile Internet to WiBro and Wi-Fi, laying the foundation for aggressive measures to facilitate wireless Internet service. Service providers are also joining the effort by introducing more fixed-rate packages, increasing smart phone penetration, and expanding application content development.

Figure 21 Wireless Internet Usage Rate



Source: Korea Communications Commission and Korea Internet and Security Agency, '2009 Status Survey on Wireless Internet Usage', November 2009.

With the recent boom in the wireless Internet service, sparked by the increased penetration of smart phones, this will serve as a catalyst for expanding Korea's wireless Internet ecosystem to Wi-Fi and WiBro services. This is expected not only to increase the number of wireless Internet users but also lead to a variety of activities carried out on the wireless Internet.

B. Using Internet Services

Information Search

Portals in Korea are making a wide range of efforts to develop differentiated services and to provide more accurate and diverse services.

Naver has the largest share in search frequency (QC) among portals in Korea from the end of 2008 to the end of 2009, however the gap between the 1st-ranking Naver and the 2nd-ranking Daum is decreasing.

Table 7 | Share of Portals in Search Service Market

(unit : %)

Portal	2008.12.	2009.11.
Naver	71.8	**65.2**
Daum	19.6	**22.3**
Nate	2.4	**6.4**
Yahoo	3.9	**3.6**
Google	-	**2.2**
Paran	0.5	**0.3**

Source: Korean Click, Analysis on share of portals based on search frequency

More diverse search services have been introduced in 2009 than at any other time. Microsoft launched a new search service called 'Bing', followed by Google's 'Google Squared' and 'Timeline'. Portals in Korea also developed a variety of new services and joined in the fierce competition. Nate launched a semantic search service at the end of September 2009, surpassing Yahoo and entering the top 3rd in the area of integrated search. Naver also started a semantic movie search service. As the use of smart phones has increased, location-based map search services have also been facilitated. Daum is providing 'Road View', a 360-degree panorama map service and has increased user convenience by applying smarter functions.

UCC

Development of user created contents (UCC), together with evolving information and communication technology, has caused an increase in information production by the non-expert 'netizens.'

Major UCC services in Korea - such as Naver Knowledge-iN, Daum TV Pot, Cyworld Mini-hompi, Afreeca TV, and Pandora TV - are now transforming their base to multi-media and are attracting users' active participation.

Recently, UCC distribution through mobile phones is increasing as micro-blogging services such as Twitter and smart phones are spreading. Such a shift of UCC production and consumption to mobile is now creating a new trend and contents that better suit the features of mobile devices that provide information in real-time and on the move.

Table 8 Number of Unique Visitors to Sites for UCC

Website	2009.12.
pandora.tv	7,564,754
youtube.com	5,650,361
mgoon.com	5,165,608
diodeo.com	4,185,036
totorosa.com	720,489

Source: Korean Click, Analysis on share of portals based on search frequency

E-learning

The e-learning industry market volume has continued to grow since the survey started back in 2004 and reached KRW 2.719 trillion in 2009, which is an 11% increase from the previous year.

The share of e-learning service use by individuals has reached 45.6% at KRW 945.3 billion, increasing by KRW 128.6 billion and leading the industry. The following e-learning service use by individuals for their businesses was 42.8% or KRW 886.3 billion, government and public organizations at 6.9% and educational institutions at 4.7%.

In terms of the market growth for each user type, the growth rate is the largest in educational institutions with 36.2% point-increase from 2008, followed by individuals with 15.7% point-increase and businesses with 9.1% point-increase. On the other hand, the e-learning market volume in the government and public organizations decreased by 14.0% points.

Table 9 E-learning Market Volume in 2009

(unit : KRW 1 million, %)

Type	Total	Individual	Business	Government and Public Organization	Educational Instituion
Volume	2,071,892	945,369	886,283	143,806	96,434
Share	100	45.6	42.8	6.9	4.7

Source: Ministry of Knowledge Economy. National IT Industry Promotion Agency, '2009 Status Survey on E-learning Industry', March 2010.

Table 10 E-learning Market Growth

(unit : KRW 1 million, %)

Type	2006	2007	2008	2009	Growth Rate
Total	**1,613,307**	**1,727,632**	**1,866,828**	**2,071,892**	**11.0**
Individual	697,227	735,108	816,765	**945,369**	15.7
Business	752,286	759,603	812,052	**886,283**	9.1
Educational Institution	26,220	69,555	70,804	**96,434**	36.2
Government & Public Organization	137,574	163,366	167,207	**143,806**	-14.0

Source: Ministry of Knowledge Economy. National IT industry Promotion Agency, '2009 Status Survey on E-learning Industry', March 2010.

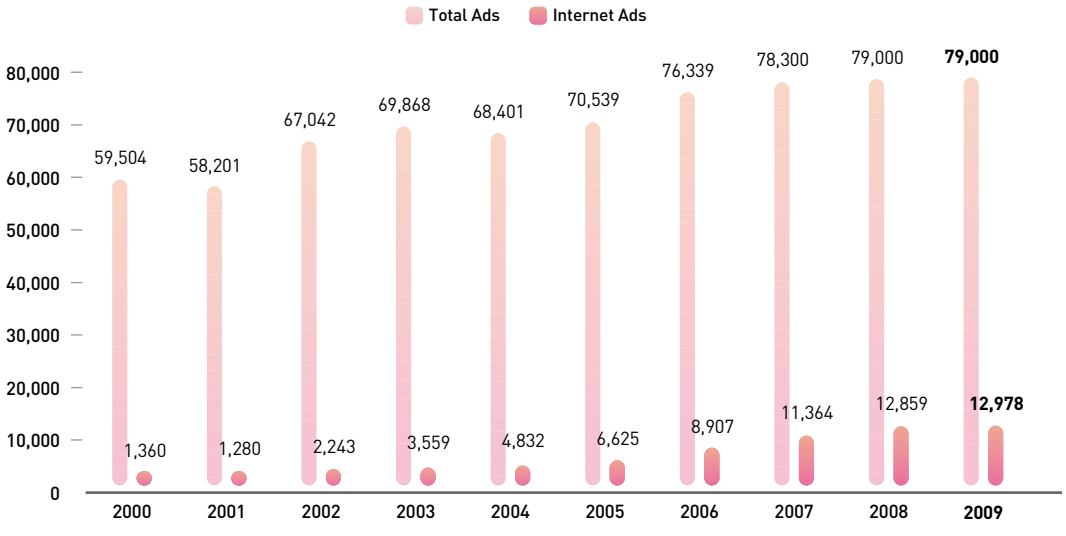
Internet Advertisement

The Internet is becoming a packaged media through many devices that provide different usage, and therefore, the Internet advertising market is expected to continue to grow.

The Korean advertising market as a whole in 2009 is estimated to reach approximately KRW 7.9 trillion, of which the Internet advertising market share is 16.4% at KRW 1.298 trillion.

Figure 22 Internet Advertisement Market Volume

(unit : KRW 100 million)



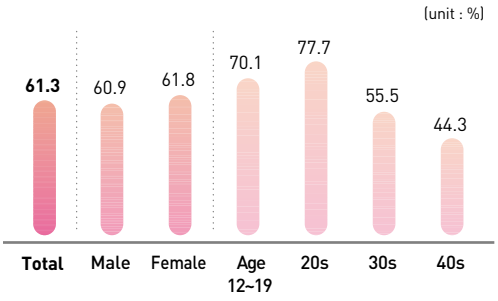
Source: Internet Marketing Council of Korea, 2009.

As businesses started to reduce their marketing budgets under the economic trouble, cost-efficient Internet advertising has been gaining attention. Moreover, the market players are launching open services, micro-media services, map services and others in order to increase the advertisement usage.

Social Networking Service (SNS)

According to Korea Communications Commission and Korea Internet and Security Agency's 'Status Survey on Internet Users', 61.3% of the Internet users aged 12~49 use social networking services including cafes, clubs, blogs, mini-hompis and messenger services once a month or more.

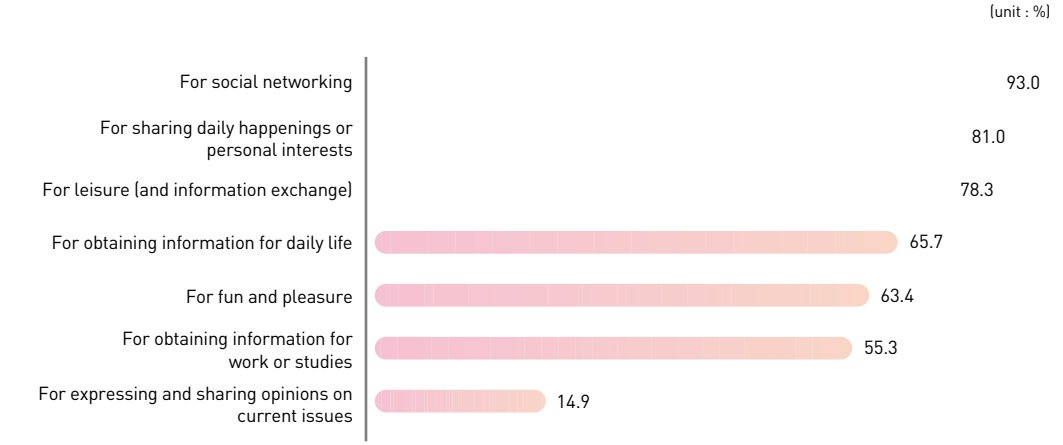
Figure 23 SNS Usage Rate



Source: Korea Communications Commission, Korea Internet and Security Agency, 'Status Survey on Internet Users' SNS Usage', June 2009.

The main purposes of using SNS are 'for social networking (93%)', 'for sharing daily happenings or interests (81.0%)', and 'for spending leisure time (and information exchange) (78.3%)'. The survey shows that because people use SNS for diverse purposes, its usage rate is surpassing other services from the past and its volume is expanding.

Figure 24 Purposes of Using SNS (multiple answers)

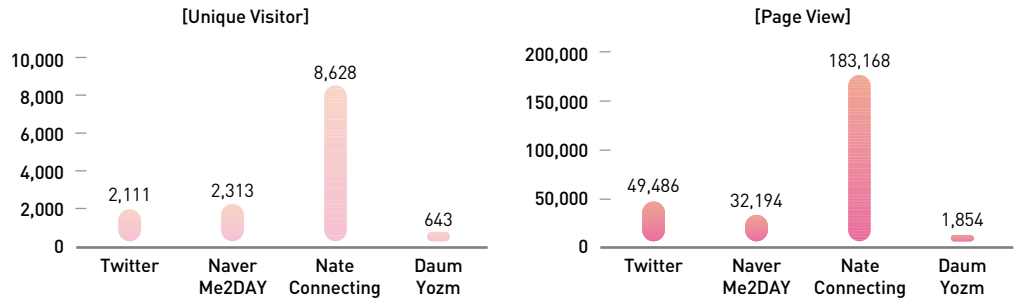


Source: Korea Communications Commission, Korea Internet and Security Agency, 'Status Survey on Internet Users' SNS Usage', June 2009.

As of April 2010, the unique visitors to mobile SNS in Korea were 2.11 million subscribers to Twitter, 2.31 million to Me2DAY, 8.63 million to Nate Connecting, and 0.64 million to Daum Yozm. As for the total number of page views, Twitter has 49.48 million views, Me2DAY 32.19 million, Nate Connecting 183.17 million, and Daum Yozm 1.85 million.

Figure 25 Mobile SNS Unique Visitors and Page Views

(unit : 1,000 persons or views)



Source: Korean Click, 'www.koreanclick.co.kr', April 2010.

C. Internet Addiction and Closing of Digital Divide

Reducing Internet Addiction

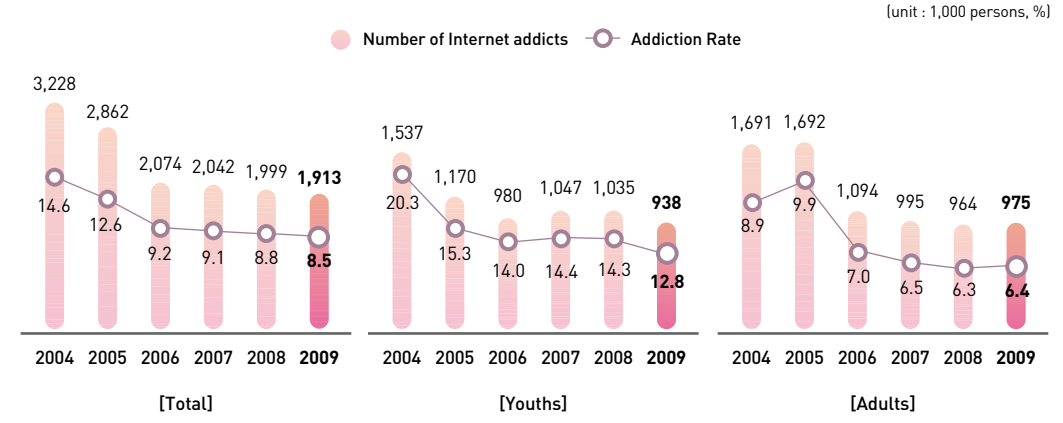
■ Status of Internet Addiction

National Information Society Agency (NIA) of Korea has surveyed the status of Internet addiction every year since 2004 and provides diverse programs including preventive education, counseling, expert training, etc. in order to help reduce it.

The 2009 survey on Internet addiction revealed that the Internet addiction rate in Korea is 8.5%, which is 0.3% point lower than the 2008 survey result. The number of Internet addicts also decreased by 86,000, which explains that Internet addiction as a whole has been reduced.

A breakdown of the Internet addiction status by each age group shows that the Internet addiction of youths decreased by 1.5% points from 14.3% in 2008 to 12.8% in 2009; whereas the addiction of adults increased by 0.1% point from 6.3% in 2008 to 6.4% in 2009.

Figure 26 Internet Addiction and Number of Internet Addicts



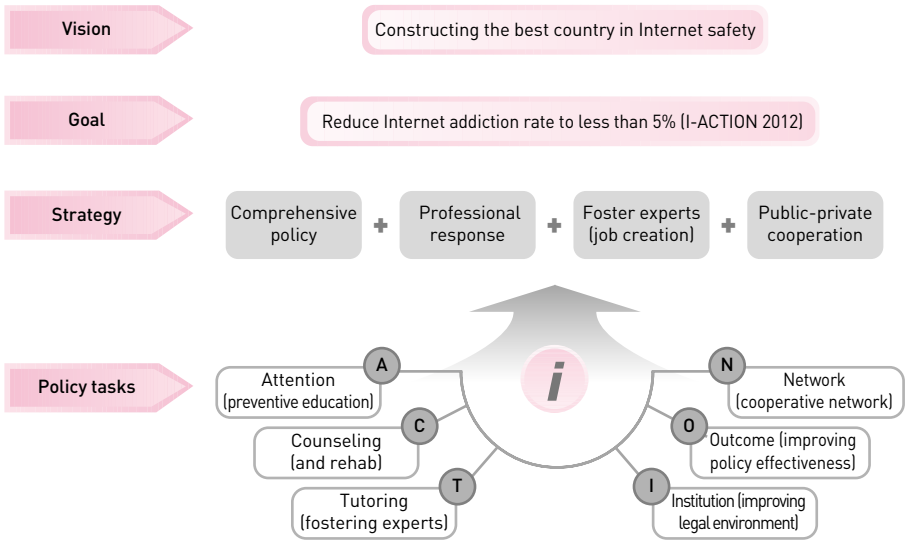
Source: National Information Society Agency, '2009 Status Survey on Internet Addiction', February 2010.

■ Response to Internet Addiction

The Korean government imposed the responsibility to respond to Internet addiction through the 'Framework Act on National Informatization' which was amended in 2009. Following this, it established the 'Comprehensive Plan for Preventing and Reducing Internet Addiction' based on discussions between government officials from relevant ministries - Ministry of Public Administration and Security as the main coordinator, Ministry of Culture, Sports, and Tourism, Ministry of Education, Science and Technology, Ministry of Health and Welfare - and experts from academia before announcing the plan in March 2010.

The plan aims to 'reduce the Internet addiction rate to less than 5% by 2012' and focuses on establishing a comprehensive life-cycle response system for all age groups from children and youths to adults. The plan provides a total of 53 policies and tasks under 6 pillars - Attention, Counseling, Tutoring, Institution, Outcome, and Network ('I-ACTION').

Figure 27 | Vision and Goal from the Comprehensive Plan for Preventing and Reducing Internet Addiction



Source: Ministry of Public Administration and Security, 'Comprehensive Plan for Preventing and Reducing Internet Addiction', March 2010.

Reducing Digital Divide

■ Informatization Level of Socially Disadvantaged

The 2009 Digital Divide Index, measured by National Information Society Agency of Korea, shows that the comparative level of the socially disadvantaged to the general population increased by 1.7% points from 68% in 2008 to 69.7% in 2009. The result is a 24.7% point-increase from 2004, the first year of the survey when the level was 45%.

Table 11 Digital Divide Index and Comparative Level of Socially Disadvantaged

Type	2004		2005		2006		2007		2008		2009	
	Index Score	Comparative Level (%)	Index Score	Comparative Level (%)	Index Score	Comparative Level (%)	Index Score	Comparative Level (%)	Index Score	Comparative Level (%)	Index Score	Comparative Level (%)
Accessibility	36.3	63.7	29.0	71.0	19.8	80.2	13.5	86.5	10.3	89.7	9.0	91.0
Capacity	72.5	27.5	65.8	35.2	57.1	42.9	55.5	44.5	54.3	45.7	51.1	48.9
Utilization	66.9	33.1	59.0	41.0	50.8	49.2	48.6	51.4	46.9	53.1	45.2	54.8
Quantitative	65.8	34.2	57.8	42.2	49.7	50.3	47.2	52.8	45.6	54.4	44.3	55.7
Qualitative	70.4	29.6	62.3	37.7	53.6	46.4	52.0	48.0	49.9	50.1	47.7	52.3
Total	**55.0**	**45.0**	**46.7**	**53.3**	**38.0**	**62.0**	**34.1**	**65.9**	**32.0**	**68.0**	**30.3**	**69.7**

Note: 1. Index score = Informatization level of general population (given the value 100) - informatization level of socially disadvantaged compared to the level of general population
2. Index score range is from 0 to 100; the closer to 100, the larger divide.
3. The 'Comparative Level' represents the informatization level of the socially disadvantaged compared to the level of the general population, which is given the value of 100.
Source: National Information Society Agency, '2009 Status Survey on Digital Divide', February 2010.

■ Policies for Reducing Digital Divide

The Korean government is taking measures to close the digital divide by enhancing web accessibility so that the citizens with disabilities can have access to and use the Internet without any restrictions. It supports the operation of a private-sector forum called 'Information Accessibility Forum (IABF)' in which many sectors of society including academia, businesses, organizations for citizens with disabilities, and research institutions can participate and discuss this issue. Moreover, it established a better environment by making it mandatory for public organizations to follow web accessibility regulations stipulated in the 'Framework Act on National Informatization' and 'Act on Banning Disablism and Protecting the Rights of the Disabled'.

In addition, the government guarantees information access and use by the disabled and the elderly by distributing and developing ICT devices, providing green PCs for the socially disadvantaged and providing communications relay services. Therefore, this is to provide an equal opportunity for the socially disadvantaged with activities being mainly carried out by the National Information Society Agency.

In the meantime, the government is also providing ICT training for the socially disadvantaged after establishing the 'Plan to Educate 5 Million in the Socially Disadvantaged Group' in 2004 and the '2nd Comprehensive Plan for Reducing the Digital Divide (2006~2010)' in 2005 against the widening gap caused by the progress of informatization.

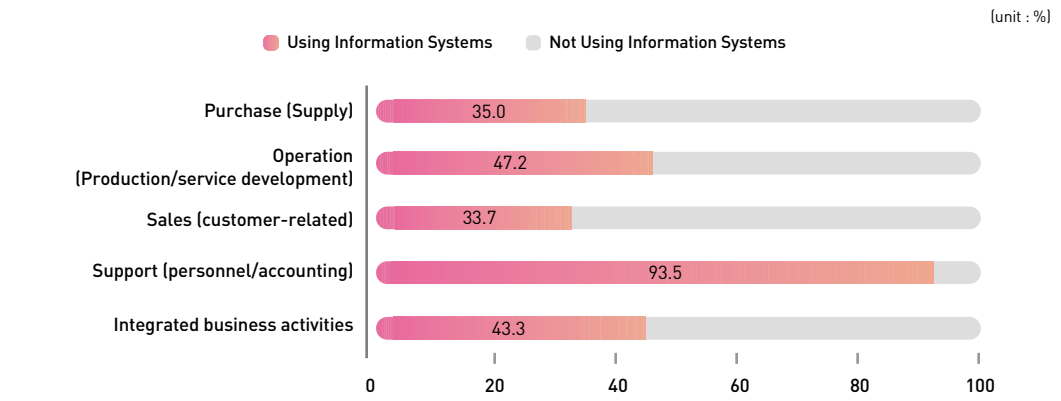
5. Digital Economy

A. ICT Usage by Businesses

ICT Usage Environment and Status

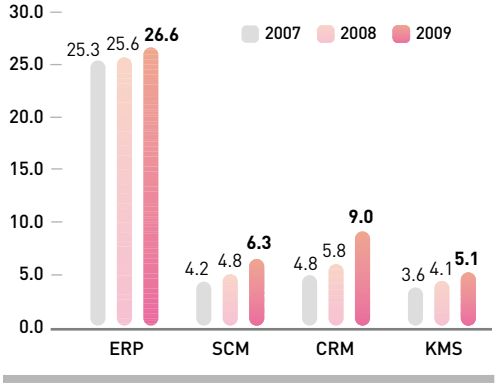
According to the 'Survey on E-business and ICT Usage by Korean Businesses' published in 2009 by National IT Industry Promotion Agency, the share of businesses using information systems for processes regarding business-supportive activities was the largest with 93.5%, followed by processes regarding operations (47.2%), purchasing (35.0%), and sales (33.7%).

Figure 28 Use of Information Systems for Each Business Process



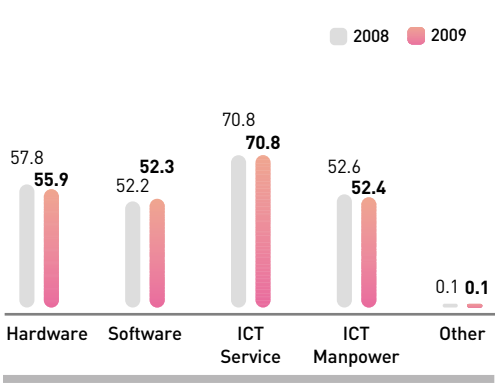
Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

Figure 29 Information System Adoption for the Integration of Business Activities



Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

Figure 30 ICT Investment by Businesses (multiple answers)



Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

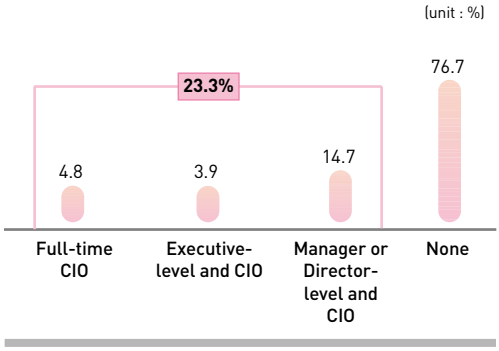
The information system usage rate for integrated business processes was the highest in ERP at 26.6%, followed by CRM 9.0%, SCM 6.3%, and KMS 5.1%.

In terms of ICT investment by businesses, more than 70% invested into ICT services including maintenance and repair services. Those investing in hardware, software and ICT manpower were 50% of the total.

The share of businesses with an independent full-time Chief Information Officer (CIO) is 4.8%, while 14.7% of businesses have managers or directors that hold the CIO role concurrently. The total share of businesses with CIOs is 23.3%.

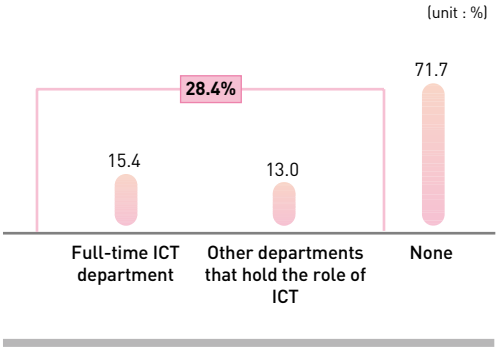
15.4% of businesses have ICT departments dedicated to informatization affairs, while 13.0% have non-ICT departments that work on ICT-related affairs as well. That means, 28.4% of total number of businesses operate departments for informatization and 71.7% do not.

Figure 31 CIOs in Businesses



Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

Figure 32 ICT Departments in Businesses



Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

ICT Utilization

National IT Industry Promotion Agency of Korea developed a 'Framework for Integrated Assessment of ICT Utilization Index' to measure ICT utilization by businesses and began to measure the 'ICT Utilization Index' from 2009, using the result of the 'Survey on E-business and IT Usage in Korean Businesses'.

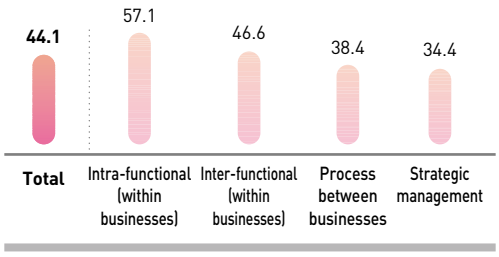
To measure the ICT Utilization Index, the level of ICT utilization in 4 areas of the process assessment indicated in the 'Framework for Integrated Assessment of ICT Utilization Index' - intra-functional process, inter-functional process, process between businesses, and strategic management - were given scores ranging from 0 to 100 and weighted by industry type, size and given value for each area.

The result of 2009 survey shows that the ICT Utilization Index score for businesses in Korea is 44.1, with scores for intra-functional process 57.1, inter-functional process 46.6, process between businesses 38.4, and strategic management 34.4.

In terms of the ICT utilization level by each industrial type, the Index score is the highest in information and communications with 51.7, followed by financial and insurance activities (48.6), electricity, gas, steam and water supply (44.9) and manufacturing (44.2).

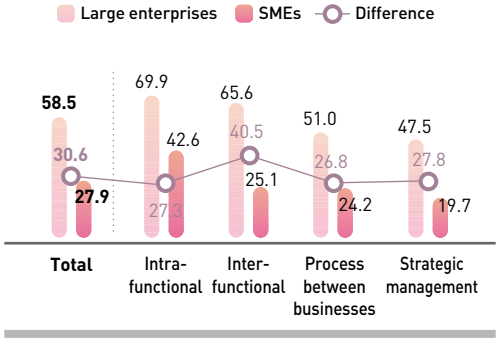
The difference is 30.6 between ICT Utilization Index scores of large enterprises (58.5) and

Figure 33 ICT Utilization Index by Assessment Area



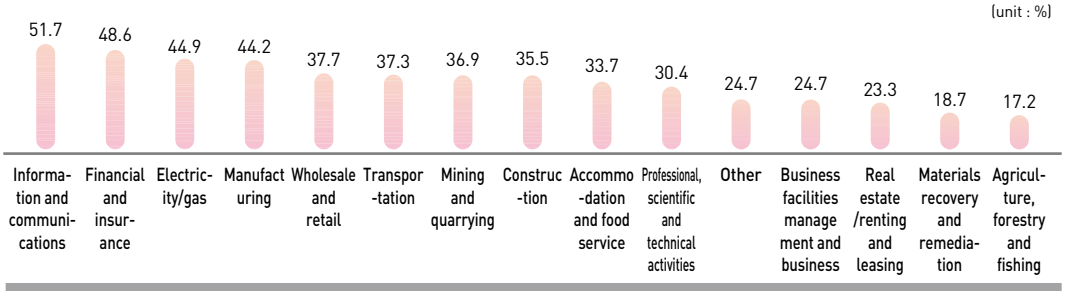
Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

Figure 35 ICT Utilization Index by Business Size



Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

Figure 34 ICT Utilization Index by Industry



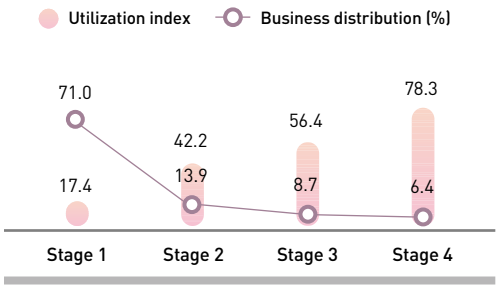
Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

SMEs (27.9). Comparison by each area shows that the difference of ICT Utilization Index between large and small/medium enterprises is the largest in intra-functional process with 40.5 and the smallest difference in process between businesses with 26.8.

ICT Utilization Development Model

Classification of the businesses surveyed in 2009 according to the 'ICT Utilization Development Model', which was developed by National IT Industry Promotion Agency, shows that 71% of them are at stage 1, 'efficient process'. Businesses at stage 2, 'integrated process within business' are 13.9% and those at stage 3, 'integrated process between businesses' are 8.7%. Only 6.4% are at the stage of 'strategic management and new business model development'.

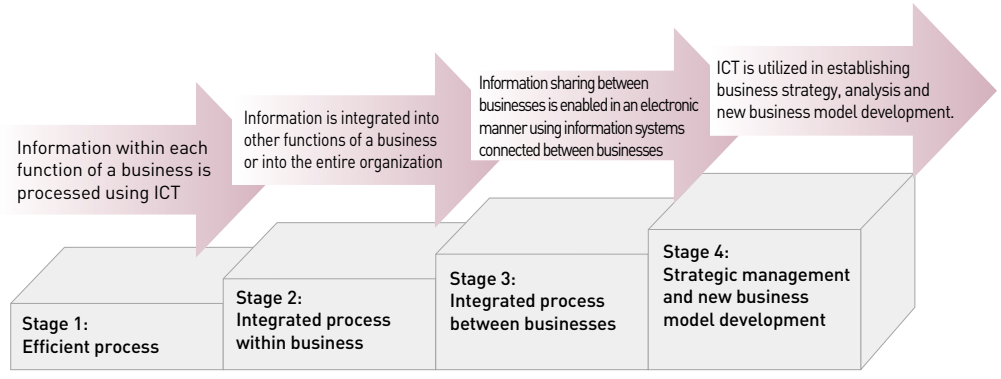
Figure 36 ICT Utilization Index and Business Distribution



Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

In terms of business size, large businesses are evenly positioned at each stage - 22.1% at stage 1, 24.6% at stage 2, 18.6% at stage 3, and 22.4% at stage 4. However, most of the SMEs are at the initial stage of ICT utilization with 83.6% at stage 1.

Figure 37 ICT Utilization Development Model



Source: Ministry of Knowledge Economy, National IT Industry Promotion Agency, 'Survey on E-business and IT Usage in Korean Businesses', December 2009.

B. E-commerce Status

Total E-commerce Volume

The e-commerce volume of Korea, as announced by National Statistical Office, has shown a consistent growth rate and reached KRW 671 trillion in 2009, which is an increase of 6.5% from KRW 630 trillion in 2008. However, the amount of increase in total e-commerce transactions in 2009 was the smallest since 2001 when the survey first began.

Table 12 E-commerce Volume by Transaction Type

(unit : KRW 1 billion, %)

Type	2008		2009[p]		Total Transactions (from previous year)	
	Amount	Share	Amount	Share	Increased Amount	Growth Rate
Total e-Commerce Volume	630,087	100.0	**670,886**	**100.0**	40,799	6.5
- B2B	560,255	88.9	**591,375**	**88.1**	31,120	5.6
- B2G	52,266	8.3	**59,456**	**8.9**	7,190	13.8
- B2C	11,359	1.8	**12,043**	**1.8**	684	6.0
- C2C and other	6,207	1.0	**8,012**	**1.2**	1,805	29.1

Source: National Statistical Office, '2009 Year-round and 4Q Statistics on E-commerceand Cyber Shopping', February 2010.

E-commerce Volume by Transaction Type

■ B2B

The total B2B e-commerce transaction volume in 2009 reached KRW 591.375 trillion, which increased 5.6% from KRW 560.255 trillion in 2008.

As for the amount of transactions, the manufacturing industry has the largest share - KRW 375.881 trillion, or 63.6% of the total amount of transaction. Next, after the manufacturing industry were wholesale and retail trade at KRW 104.598 trillion (17.7%) and construction at KRW 55.641 trillion (9.4%), respectively.

■ B2G

The 2009 B2G e-commerce volume accounted for KRW 59.456 trillion, which increased 13.8% from the previous year. Of this amount, the volume of purchasing goods and services increased

Table 13 E-commerce Volume by Industry Type

(unit : KRW 1 billion, %)

Type	2008		2009p		Total Transactions (from previous year)	
	Amount	Share	Amount	Share	Increased Amount	Growth Rate
Total B2B transaction	560,255	100.0	**591,375**	**100.0**	31,120	5.6
- Manufacturing	359,732	64.2	**375,881**	**63.6**	16,149	4.5
- Wholesale/Retail	96,185	17.2	**104,598**	**17.7**	8,413	8.7
- Construction	63,288	11.3	**55,641**	**9.4**	△7,647	△12.1
- Transportation	8,456	1.5	**18,960**	**3.2**	10,504	124.2
- Electricity/gas/water	10,807	1.9	**14,985**	**2.5**	4,178	38.7
- Information and Communications	11,514	2.1	**13,713**	**2.3**	2,199	19.1
- Other	10,273	1.8	**7,596**	**1.3**	△2,677	△26.1

Source: National Statistical Office, '2009 Year-round and 4Q Statistics on E-commerceand Cyber Shopping', February 2010.

Table 14 B2G E-commerce Volume

(unit : KRW 1 billion, %)

Type	2008		2009p		Total Transactions (from previous year)	
	Amount	Share	Amount	Share	Increased Amount	Growth Rate
Total B2G Transactions	52,266	100.0	**59,456**	**100.0**	7,190	13.8
- Purchase of goods and services	30,306	58.0	**31,024**	**52.2**	718	2.4
- Construction contracts	21,960	42.0	**28,432**	**47.8**	6,472	29.5

Source: National Statistical Office, '2009 Year-round and 4Q Statistics on E-commerce and Cyber Shopping', February 2010.

2.4% to KRW 31.024 trillion for 2009 and the construction contract volume increased 29.5% to KRW 28.432 trillion.

■ B2C / C2C

The 2009 transactions through online shopping malls hit the largest volume with KRW 20.641 trillion since the survey start back in 2001. This is a 13.7% increase from KRW 18.146 trillion in 2008. Of this amount, B2C transaction volume was KRW 12.430 trillion, which was a 6.0% increase from 2008. The amount of C2C transactions also increased 26.7% to KRW 8.597 trillion.

In terms of product type, transaction volume was the largest in products related to clothing and fashion with a total of KRW 3.524 trillion. Compared to the 2008 survey result, the shares increased in sports and leisure-related products (37.4%) and food and beverage (34.0%), whereas the share of travel and reservation services decreased (-6.6%).

Table 15 Volume of Online Shopping Transactions

(unit : KRW 1 billion, %)

Type	2008		2009p		Total Transactions (from previous year)	
	Amount	Share	Amount	Share	Increased Amount	Growth Rate
Total Transactions	18,146	100.0	**20,641**	**100.0**	2,495	13.7
- B2C	11,359	62.6	**12,043**	**58.3**	684	6.0
- C2C and other*	6,786	37.4	**8,597**	**41.7**	1,811	26.7

Note: * Includes some B2B and B2G transactions carried out in online shopping.
Source: National Statistical Office, '2009Year-round and 4Q Statistics on E-commerce and Cyber Shopping', February 2010.

Table 16 Online Shopping Volume by Product Type

(unit : KRW 1 billion, %)

Type	2008		2009p		Total Transactions (from previous year)	
	Amount	Share	Amount	Share	Increased Amount	Growth Rate
Total transaction volume	18,146	100.0	**20,641**	**100.0**	2,495	13.7
- Clothing/fashion-related products	2,996	16.5	**3,524**	**17.1**	528	17.6
- Home appliances/electronic and communication devices	2,466	13.6	**2,683**	**13.0**	217	8.8
- Travel and reservation services	2,857	15.7	**2,668**	**12.9**	−189	−6.6
- Computer and peripherals	1,636	9.0	**2,035**	**9.9**	399	24.4
- Life/automobile-related products	1,710	9.4	**1,959**	**9.5**	249	14.6
- Food and beverage	1,009	5.6	**1,352**	**6.6**	343	34.0
- Products for children/babies	1,027	5.7	**1,247**	**6.0**	220	21.4
- Cosmetics	917	5.1	**1,104**	**5.3**	187	20.4
- Books	875	4.8	**1,030**	**5.0**	155	17.7
- Sports/leisure-related products	614	3.4	**844**	**4.1**	230	37.4
- Agricultural and marine products	493	2.7	**588**	**2.8**	94	19.1
- Office/stationary products	262	1.4	**298**	**1.4**	36	13.7
- Audio discs/videos/musical instruments	111	0.6	**136**	**0.7**	24	21.9
- Software	112	0.6	**130**	**0.6**	18	15.6
- Various services	56	0.3	**72**	**0.3**	15	26.7
- Flowers	51	0.3	**60**	**0.3**	9	18.1
- Others	951	5.2	**912**	**4.4**	−39	−4.1

Source: National Statistical Office, '2009 Year-round and 4Q Statistics on E-commerce and Cyber Shopping', February 2010.

C. Financial Informatization

Internet Banking

As of the end of 2009, the number of Internet banking customers registered in 19 financial organizations stood at 59.21 million while maintaining a two-digit growth rate since 2005. This was a 12.6% increase from the end of 2008. Of this, 56.05 million are individual customers, which increased 11.9% from the end of 2008 (50.08 million). The number of corporate customers was 3.16 million, which increased 25.4% from 2008 (2.52 million).

Table 17 Internet Banking Service Registered Customers

(unit : 1,000 persons or businesses, %)

Type	2005-end	2006-end	2007-end	2008-end	2009-end
Individuals	25,303 (9.6)	34,123 (34.9)	42,396 (24.2)	50,075 (18.1)	56,047 (11.9)
Businesses	1,434 (21.8)	1,789 (24.8)	2,302 (28.7)	2,520 (9.5)	3,159 (25.4)
Total	**26,737 (10.2)**	**35,912 (34.3)**	**44,698 (24.5)**	**52,595 (17.7)**	**59,206 (12.6)**

Note: 1) Figures in ( ) are increase rates from the previous year.
Source: Bank of Korea, January 2010.

Money transfers, loan services and a variety of inquiries through Internet banking services reached an average of 28 million cases daily in 2008, a 24.8% increase from 22.43 million daily cases in 2008. The proportion was highest for inquiries at 83.0% (average 23.23 million cases daily), while money transfers accounted for 17.0% (average 4.77 million cases daily).

As of the end of 2009, there were 14.93 million authorized certificates issued by Korea Financial Telecommunications and Clearings Institute for use in Internet banking. This is a 16.0% increase from the end of 2008 (12.87 million certificates).

In December 2009, among the four major financial service channels - window teller, CD/ATM, tele-banking and Internet banking, the number of transactions through Internet banking accounted for 37.4% and became the main channel, surpassing CD/ATM transaction (36.7%) for the first time. On the other hand, transactions through window tellers continued to decrease and accounted for 13.7%.

Table 18 Daily Average Internet Banking Service Use

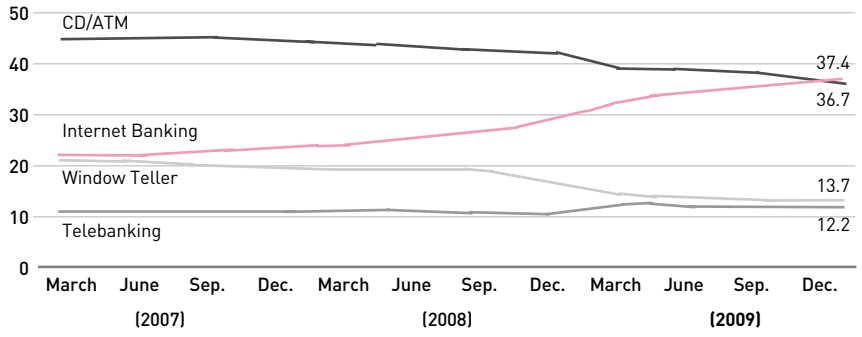
(unit : 1,000 cases; KRW 100 million)

Type		2006	2007	2008	2009
Number of Cases	Inquiry	10,596 〈82.8〉	15,177 〈84.7〉	19,093 〈85.1〉	**23,226 〈83.0〉**
	Fund Transfer	2,204 〈17.2〉	2,740 〈15.3〉	3,330 〈14.8〉	**4,769 〈17.0〉**
	Loan Application	2 〈0.0〉	2 〈0.0〉	3 〈0.0〉	**2 〈0.0〉**
	Total	**12,802 〈100.0〉**	**17,919 〈100.0〉**	**22,425 〈100.0〉**	**27,997 〈100.0〉**
Amount	Fund Transfer	150,903	185,570	228,426	**294,418**
	Loan Application	137	135	160	**159**
	Total	**151,040**	**185,705**	**228,586**	**294,577**

Note: ( ) shows the proportion (%).
Source: Bank of Korea, '2009 Status of Domestic Internet Banking Service Usage', January 2010.

Figure 38 Transactions by Financial Service Channels

(unit : %)



Source: Bank of Korea, '2009 Status of Domestic Internet Banking Service Usage', January 2010.

Mobile Banking

The use of mobile banking services offered by domestic banks and the Post Bank increased significantly by 62.7% in 2009 to 1.72 million cases daily, up from 1.06 million cases in 2008.

Table 19 Daily Average Mobile Banking Service Use

(unit : 1,000 cases; KRW 100 million)

Type		2006	2007	2008	2009
Number of Cases	Inquiry	366 〈58.4〉	598 〈63.4〉	898 〈50.2〉	**1,461 〈62.7〉**
	Fund Transfer	80 〈45.5〉	118 〈47.5〉	159 〈34.7〉	**259 〈62.9〉**
	Total	**446 〈55.9〉**	**716 〈60.5〉**	**1,057 〈47.6〉**	**1,720 〈62.7〉**
Amount	Fund Transfer	735 〈29.6〉	1,061 〈44.4〉	1,507 〈42.0〉	**2,656 〈76.2〉**

Note: ( ) shows the increase rate from the previous year.
Source: Bank of Korea, '2009 Status of Domestic Internet Banking Service Usage', January 2010.

As of the end of 2009, the number of mobile banking customers was 11.16 million, a 31.6% increase from the end of the previous year. Of this number, the number of IC chip-based mobile banking ('BankOn', 'M Bank' and 'K Bank') customers stood at 4.63 million, a 1.4% decrease from the previous year. This was due to an increased use of 3G mobile devices, in which financial IC chips cannot be embedded. The number of VM-based customers showed significant growth of 72.5% from the previous year, reaching 6.53 million.

Table 20 Number of Mobile Banking Customers

(unit : 1,000 persons)

Type	2006	2007	2008	2009
IC chip-based	2,979 (60.1)	4,412 (48.1)	4,694 (6.4)	**4,627 (-1.4)**
VM-based[1)]	-	597 (-)	3,784 (533.8)	**6,528 (72.5)**
Total	**2,979 (60.1)**	**5,009 (68.1)**	**8,478 (69.3)**	**11,155 (31.6)**

Note: 1. 1)VM (Virtual Machine)-based mobile banking: Method using Internet banking service by installing Internet banking programs in mobile phones (does not use IC chips)
2. ( ) shows the increase rate from the previous year.
Source: Bank of Korea, '2009Status of Domestic Internet Banking Service Usage', January 2010.

Electronic Cash

The use of electronic cash in 2009 was on average 290,000 cases per day with an amount reaching KRW 200 million, a 5.6% and 4.8% decrease from 2008. The use of electronic cash cards has been decreasing due to the increase in the use of pre-paid cards and credit cards, both of which provide

pay functions of transportation fares and are on competing terms with each other.

As of the end of 2009, the number of electronic cash cards issued was 9.98 million, a slight increase (3.3%) from the end of 2008 and the amount of balances also increased 5.6% to KRW 11.8 billion.

Table 21 Volume of Electronic Cash Use (Daily Average) and Card Issuance

(unit : 1,000 cases, KRW 1 million, 1,000 cards, %)

Type	2006	2007	2008	2009	Increase Rate (%)
Number of Cases	438	352	306	**289**	-5.6
Amount	309	288	262	**249**	-4.8
Number of Card Issuance	8,859	10,100	9,661	**9,975**	3.3
Balance	10,539	10,549	11,215	**11,842**	5.6

Note: K-Cash, MYbi, VisaCash included.
Source: Bank of Korea, '2009 Report on Payment Operation Management', March 2010.

Online Stock Trading

In 2009, the portion of online stock trading within the overall stock trading volume was recorded at 58.7%, a slight 9.0% point-increase from 49.7% in the previous year. This was due to the fact that the increase in the total amount of stock trading from 2008 led to a significant increase in the amount of transactions in the KOSDAQ market, which has the largest share of online transactions.

Table 22 Share of Online Stock Trading

(unit : KRW 1 trillion)

Year	Total Amount of Stock Trading[1] (A)	Amount of Online Stock Trading[1] (B)	Share of Online Trading (B/A, %)
2006	2,552.0	1,388.3	54.4
2007	3,727.2	1,926.3	51.7
2008	3,192.3	1,586.5	49.7
2009	**3,994.5**	**2,344.9**	**58.7**

Note: 1) Amount is the total of purchase and sale.
Source: Korea Exchange, '2009 Stock Statistics', February 2010.

Online Insurance

As of the end of 2008, 22 life insurance companies and 16 non-life insurance companies provided Internet marketing services. Their number of customers who used these particular Internet

marketing services annually totaled 11.24 million, and 295.54 million cases of services were used, of which 92.0% were inquiry services, while insurance and loan contracts only accounted for 10.41 million cases, or 3.5% of the total.

Table 23 Internet Marketing of Insurance Companies

(unit :1,000 persons or cases)

Year-end	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
2005	29	14,396 (36.7)	6,086 (6.9)	89,903 (29.0) 〈100.0〉	86,340 〈96.0〉	281 〈0.3〉	396 〈0.4〉	1,059 〈1.2〉	1,827 〈2.1〉
2006	34	20,729 (44.0)	6,462 (6.2)	100,156 (11.4) 〈100.0〉	95,709 〈95.6〉	832 〈0.8〉	1,584 〈1.6〉	703 〈0.7〉	1,328 〈1.3〉
2007	37	21,648 (4.4)	9,028 (39.7)	159,175 (58.9) 〈100.0〉	148,871 〈93.5〉	1,432 〈0.9〉	3,114 〈2.0〉	3,178 〈2.0〉	2,580 〈1.6〉
2008	**38**	**28,508 (31.7)**	**11,235 (24.5)**	**295,540 (85.7) 〈100.0〉**	**271,908 〈92.0〉**	**3,372 〈1.1〉**	**7,945 〈2.7〉**	**2,466 〈0.8〉**	**9,849 〈3.3〉**

Note: ( ) shows the increase rate (%) from previous year, and < > shows the share in the entire usage (%).
Source: Bank of Korea, '2008 Status of Financial Informatization', December 2009.

6. Informatization Infrastructure

A. Internet Infrastructure

Domains

Korea's top-level domain contains the country code '.kr'and is under management of Korea Internet and Security Agency as specified in the 'Act on Internet Address Resources'. As of June 2010, more than 1.08 million ".kr" addresses have been registered since the service was launched in 1986.

Table 24 | Registered Number of .kr Domains

(unit : cases)

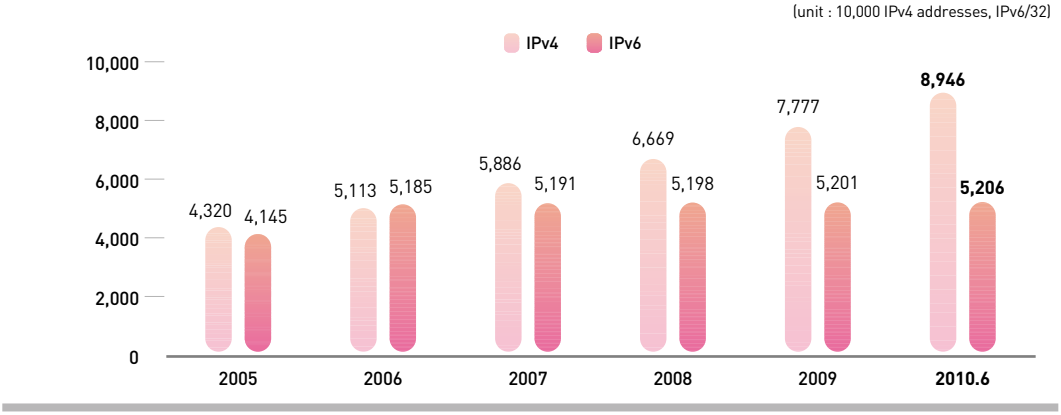
Year	No. domain registrations	Year	No. domain registrations
2010.6	**1,086,439**	2001	457,450
2009	1,064,179	2000	517,354
2008	1,001,206	1999	206,973
2007	930,485	1998	26,166
2006	705,775	1997	8,045
2005	642,770	1996	2,664
2004	590,800	1995	436
2003	611,548	1994	192
2002	515,200	1993	61

Source: Korea Internet and Security Agency.

IP Address and AS Number

Under the concern that the number of IPv4 addresses is expected to continue decreasing to a critical level, ISPs in Korea have responded promptly and proactively by securing 11 million IPv4 addresses in 2009 alone. As of June 2010, the total number of IPv4 addresses possessed by Korea amounted to 89 million or the world's 5th most amount, and the number of IPv6 addresses is 5,206 (/32) or world's 8th most amount. Korea also has a total of 866 autonomous system numbers, the world's 12th most.

Figure 39 IPv4 and IPv6 Addresses



Source : Korea Internet and Security Agency.

Building Foundation for Transition to IPv6

Korea Communications Commission established the '2nd Master Plan for Facilitating and Managing Internet Address Resources Development and Use (2009~2011)' in December 2008 to promote the transition to and diffusion of the IPv6 system with a strategies and goals for each year.

Based on the plan, Korea adopted the IPv6 system in the public sector in 2008 and with the goal of applying the IPv6 system to the commercial network by 2009, constructed IPv6 network in domestic ISPs along with efforts to raise awareness for the need to adopt IPv6 and foster human resources. As of 2009, the number of organizations that have adopted the IPv6 system through the project for building a foundation for transition to IPv6 was 43 organizations, a 7% increase from the previous year.

As the world-wide distribution of IPv4 addresses is expected to come to an end in late 2011 and as Asia-Pacific Network Information Center (APNIC) announced that it would distribute the last one A-class address block on a small scale, which it received from the Internet Corporation for Assigned Names and Numbers (ICANN), to organizations that are in need of the addresses, it has almost become clear that IPv6 network-based ICT services will likely emerge from 2011. Therefore, Korea Communications Commission and Korea Internet and Security Agency plan to publish and distribute manuals for each stakeholder in order to minimize any disorder from the transition to the IPv6 system and organize a public-private council for IPv6 transition for systematic and facilitated transition processes.

B. Digital Convergence Infrastructure

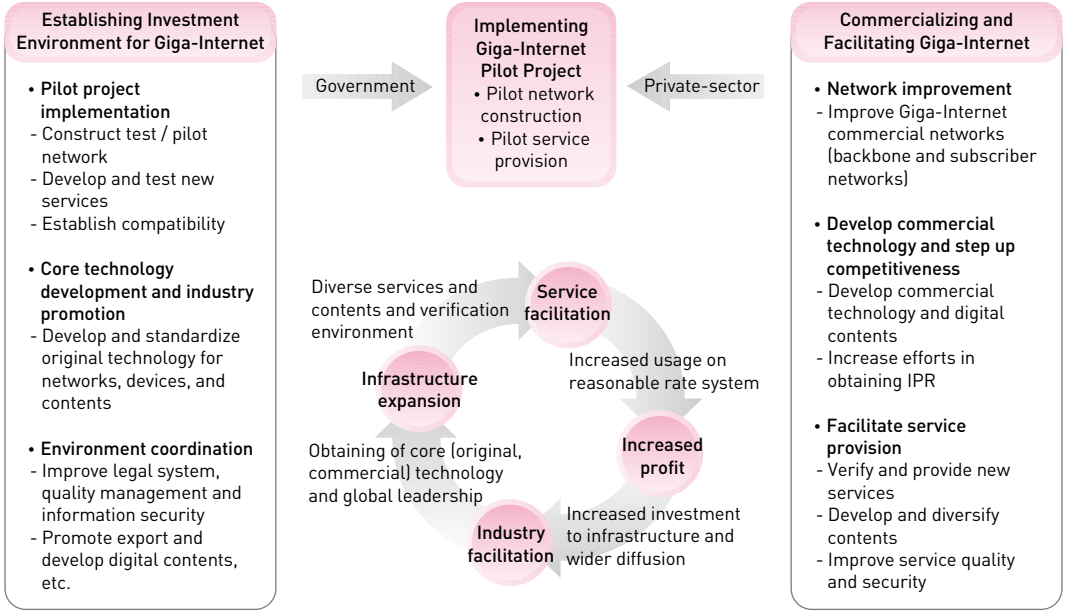
Giga-Internet

To maintain and improve one of the world's top-class broadcasting and communications infrastructure beyond BcN and to accommodate information that is becoming high-quality, high-capacity, and converged, the government selected Giga-Internet as one of the key national tasks.

With the goal of providing commercial Giga-Internet service from 2012, the Korean government established the 'Plan for Developing and Promoting Giga-Internet' in April 2009 and pilot projects are currently being carried out by National Information Society Agency.

To provide Giga-level Internet service to households, which is, at most 10 times faster than BcN, the plan includes actions to carry out during the period from 2009 to 2012 for the preparation and verification in areas such as pilot network construction, pilot service, technology development and the establishment of the relevant environment.

Figure 40 | Giga-Internet Project Strategy and Roles of the Government and Citizens



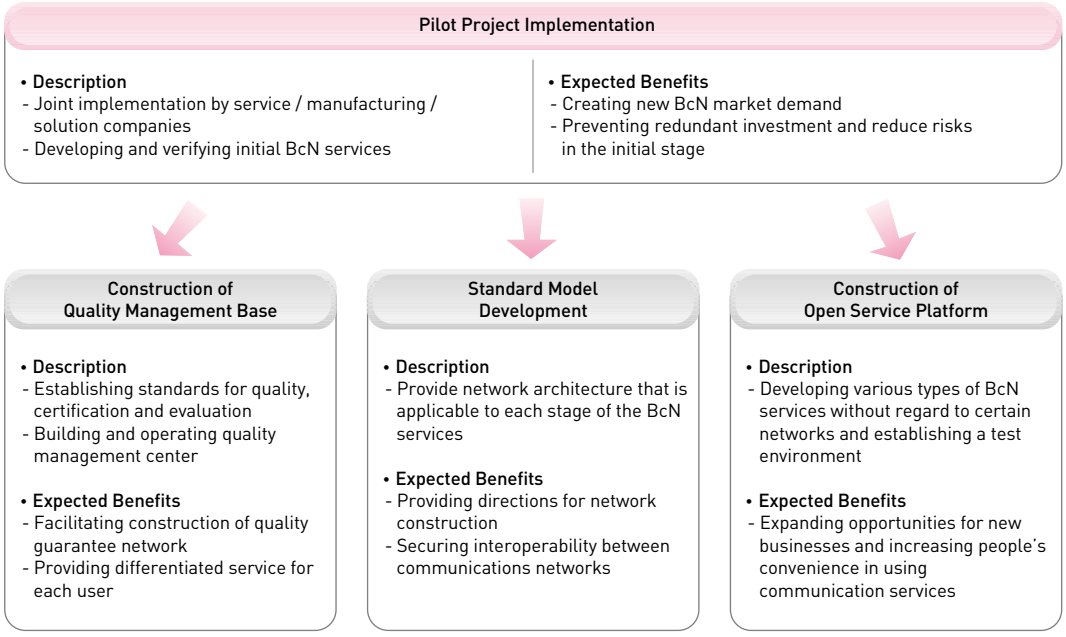
Source : National Information Society Agency, 'Plan for Developing Giga-Internet', April 2009.

This project will facilitate the construction of Giga-level pilot networks on a matching-fund system between the government and the private-sector and provide more than 2,000 household subscribers future BcN services that are of high-quality and high-capacity such as tangible 3D IPTVs, multi-angle IPTVs, HD home CCTVs, and TV multi-media messenger services, etc.

The project is being carried out in two phases - project introduction (2009~2010) and project expansion (2011~2012). In 2009, actions were taken to construct regional pilot networks in four major cities (Seoul, Suwon, Gwangju, and Busan), facilitate the Giga-Internet by developing Giga-level service models and provide pilot services to subscribers, and establish the environment for Giga-Internet facilitation. In 2010, the government plans to expand the pilot networks already established in the four cities in 2009 and develop more than two pilot service models from each of the consortiums.

Broadband Convergence Network (BcN)

Figure 41 BcN Project Overview



Source: Korea Information Society Agency, '2008 Report on Construction of BcN Base', December 2008.

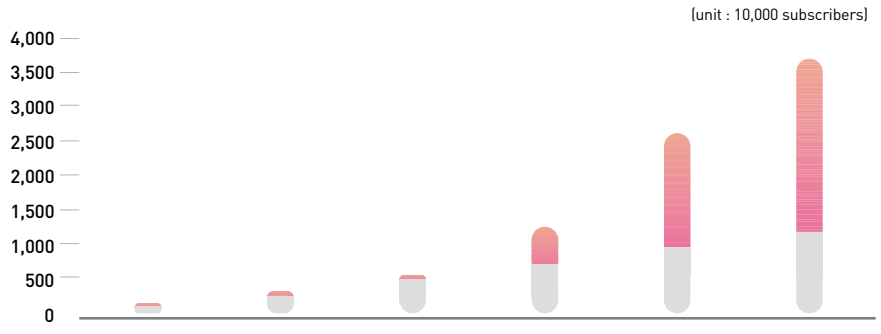
As society is moving towards and developing into an intelligent-based ubiquitous society, the Korean government has been continually carrying out the construction of broadband convergence network (BcN) from 2004 to enable seamless and safe use of broadband multimedia services regardless of time and place, under which communication, broadcasting and the Internet are all converged.

The government aims to provide broadband multi-media services through the world's top-class BcN subscriber network. Under the three-phase plan - 1st phase for infrastructure-building (2004~2005); 2nd phase for network construction (2006~2007); and 3rd phase for completion (2008~2012) - it is carrying out projects that are developing new service models, facilitating usage, constructing and operating BcN quality management base and open services.

The 3rd-phase of the project, which started from 2008, aims to construct wired-wireless integrated network and provide seamless wired-wireless integrated services. In 2009, the project was implemented mainly in the areas of pilot construction and service, quality management base construction and operation, open service development and test environment, standard model development and environment coordination.

As a result, the BcN subscriber network was improved and as of 2009 year-end, a total of 35.01 million subscribers (11.79 million wired and 25.31 million wireless subscribers) are enjoying high-quality, broadband and converged services.

Figure 42 BcN Subscribers



Type	2004	2005	2006	2007	2008	2009
BcN wireless subscribers	46	56	64	563	1,674	**2,531**
BcN wired subscribers	86	256	486	701	962	**1,179**

Source: National Information Society Agency, December 2009.

The ultimate goal of BcN construction is to upgrade 40 million wired and wireless subscriber networks to BcN and establish an ICT environment where all users can conveniently use quadruple play services (QPS) regardless of time and place. To achieve such a goal, the project will mainly focus on securing portability and compatibility as well as QPS pilot services that are based on such features.

IP-USN

The broadcasting and communications environment today is expanding rapidly from a person-oriented base to person-to-person and machine-to-machine through media convergence including broadcasting, communications and the Internet. IP-USN is a converged ICT infrastructure for future broadcasting and communications, which enables the use of such intelligent communication services safely and conveniently in real-time and without limitations of time and place.

Since IP-USN provides scalability and portability through the connection to the person-oriented Internet infrastructure, such as BcN and IPv6 and using mobile communications (2G and 3G) and WiBro technologies, it can detect and deliver object information in a safe and convenient manner. By integrating closed sensor networks that had been used for preventing disasters and accidents, monitoring weather and seas, or building control in a dispersed manner, IP-USN can also serve as a key infrastructure for low-carbon, energy-saving, and eco-friendly green growth and can be further applied to a wider range of services and user targets.

The Korea Communications Commission finalized the ‘Master Plan for Building Foundation for IP-USN’ in October 2009 in order to prevent redundant investment through the stable and efficient promotion of the IP-USN project. In addition, the efficient use of broadcasting and communications infrastructure can be used to back up major policies of the country for promoting green growth and responding to climate change.

Under the goals of ‘constructing the world’s best IP-USN infrastructure by 2010’, ‘developing IP-USN convergence services that have high potential for growth in the future’, and ‘obtaining core original technology and leading international standards’, the Commission will carry out 12 tasks in 4 areas - i) constructing IP-USN infrastructure; ii) facilitating IP-USN services; iii) developing IP-USN technologies; and iv) establishing environment for IP-USN expansion.

C. Information Resource Management in the Public Sector

Operation of the National Computing and Information Agency

The Korean government came up with a plan for an integrated environment forgovernment-wide computing facilities in order to tackle the issues regarding redundant investment, lack of facilities for security, and low-quality computing environment, all of which are caused by unorganized and dispersed construction and operation of information systems by each ministry.

The government went through business process re-engineering (BPR) for efficient operation of government-wide computing facilities in October 2002 and established the informatization strategic plan (ISP) for constructing the National Computing and Information Agency. The master plan was finalized in October 2004 and after the organization of a steering committee in February 2005, the Agency officially opened in November 2005. In June 2007, the Gwangju Agency facility opened and completed the moving in of information resources of the central administration.

The National Computing and Information Agency is currently responsible for integrating and efficiently managing and operating national information resources; providing safe protection of national information systems; providing security and recovery from disasters; constructing and managing national communications network; and providing technological support for construction and management of information systems in government ministries.

As of May 2009, the National Computing and Information Agency provided national ICT services regarding 1,028 business systems of 41 central administrative bodies, while at the same time handled the operations and management of 14,845 information resources including servers, networks, and security equipment.

Application of Government-wide Enterprise Architecture (EA)

The Korean government has implemented the application of enterprise architecture (EA) to the public sector in order to manage complex and massive information resources in an efficient manner that has led to systematic informatization based on the analysis of current status and goals.

In this regard, a law was enacted to mandate the application and operation of EA in public organizations in 2005. In 2006, the '1st phase EA Master Plan (2007~2009)' was established, which included the strategic direction and goals for EA application in the public sector. Based on the plan, EA application has been actively implemented since 2007.

As a result of consistent efforts of the public sector in terms of EA application, 101 public organizations have adopted EA or were preparing for adoption by the end of December 2009. In 2009 alone, 29 more organizations adopted EA.

As the government plans to revise relevant laws, prepare measures to facilitate EA application, and introduce EA to local governments, more activities will be carried out to back up these efforts. At the same time, the 2nd phase EA Master Plan will be established, providing strategies and directions for EA implementation for the next three years to 2012 and taking it to the next level.

Table 25 Status of EA Application

Type	Total Number of target organizations	Number of organizations with EA	Year of application				
			~2005	2006	2007	2008	2009
Central Administrative Organizations	42	38(90%)	5	12	10	5	6
Metropolitan City / Provincial Governments	16	16(100%)	1	-	-	2	13
Other Public Organizations	68	47(69%)	6	5	11	15	10
Total	**126**	**101(80%)**	**12**	**17**	**21**	**22**	**29**

Note : Metropolitan city/provincial governments that have adopted the 'common EA for local governments' were considered as having applied EA. The number of those that applied EA of their own was a total of 5.
Source : Ministry of Public Administration, 'Presentation in EA Executive Workshop', May 2009.

7. Information Security

A. Current Status

Status of Cyber Incidents

The number of worm/virus reports received by Korea Internet and Security Agency in 2009 was 10,395 (a monthly average of 866), a 22.7% increase from 2008 (monthly average 706). As for the types of reports, online game hacking cases that pursue theft of account information of particular online games took up the highest portion with 10.8%, which was also the case in 2008. Following was 'agents' with 10.5%, which are not self-spreading but rather infected through websites and downloads that add malignant codes.

The number of hacking incident reports from the private sector in 2009 was 21,230, which increased 33.2% from 15,940 in 2008. The incident types include spam relay, other hacking, and homepage defacement, which respectively increased by 56.4%, 4.2% and 96%. In addition, phishing and other intrusion attempts, decreased by 15% and 13.5% over the last year.

Table 26 | 2009 Private Sector Cyber Incidents

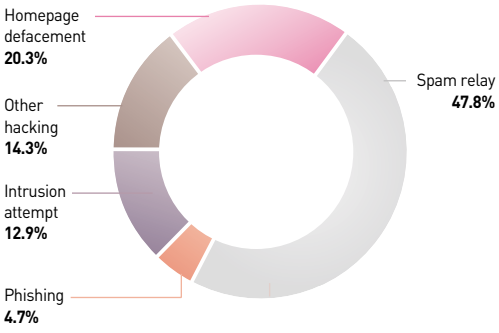
(unit : cases)

Type	2008 Total	2009												2009 Total
		1	2	3	4	5	6	7	8	9	10	11	12	
Worm/Virus	8,469	460	641	695	925	941	837	886	879	1,591	844	1,002	694	**10,395**
Hacking report	15,940	1,579	1,119	1,285	1,582	1,863	2,319	2,200	2,704	2,676	1,748	1,011	1,144	**21,230**
- Spam relay	6,490	617	495	599	764	1,134	1,290	1,392	1,108	1,002	1,012	409	326	**10,148**
- Phishing	1,163	65	72	86	51	88	100	68	104	103	105	73	73	**988**
- Intrusion attempt	3,175	194	230	219	162	210	282	244	231	285	232	215	239	**2,743**
- Other hacking	2,908	277	225	291	299	238	261	245	241	247	252	199	256	**3,031**
- Homepage defacement	2,204	426	97	90	306	193	386	251	1,020	1,039	147	115	250	**4,320**
Malignant BOT	8.1%	1.4%	2.0%	1.6%	1.0%	1.0%	0.9%	0.9%	0.6%	0.7%	0.6%	0.6%	0.6%	**1.0%**

Source : Korea Internet and Security Agency, 'Monthly Status and Analysis on Internet Incidents', December 2009.

Analysis on the share of each hacking incident type; spam relay had the largest share with 47.8%, followed by homepage defacement (20.3%), other hacking (14.3%), intrusion attempt (12.9%) and phishing (4.7%).

Figure 43 | 2009 Private Sector Hacking Reports by Type



Source : Korea Internet and Security Agency, 'Monthly Status and Analysis on Internet Incidents', December 2009.

Status of Personal Information Protection

The number of reports and consultations received by Korea Internet and Security Agency's 'e-Call Center 118' in 2008 came to a total of 35,167. As for the types of reports and consultations, 'infringing credit information in the financial sector' accounted for 67.94% (23,893 cases), followed by 'damaging/infringing/stealing other persons' information such as the resident ID' at 17.92% (6,303 cases) and 'lacking measures for technological and managerial protection' at 2.32% (819 cases).

When comparing the incidents reported in 2009 to those in 2008, the share of cases that are not covered by the law such as credit information increased to 67.94% in 2009 from 60.65% with 24,144 cases in 2008. On the other hand, the cases of 'damaging/infringing/stealing other persons' information such as the resident ID' and 'lacking measures for technological and managerial protection' decreased in share from 2008. The shares of the other types of cases, including the cases of 'collecting personal information', 'using information for other purposes or providing to the third person', and 'damaging and infringing of information by personal information managers' increased from 2008.

Table 27 2009 Reports and Consultations on Personal Information Infringement

(unit : cases)

Report Type	2008		2009		Increase rate
	Number	Share	Number	Share	
Collecting personal information without user's consent	1,129	2.83	1,075	3.05	-4.8
Notifying or specifying when collecting personal information as mandated	6	0.01	15	0.04	150.0
Collecting excessive personal information	87	0.22	115	0.32	32.2
Using information for other purposes or providing to the third person	1,037	2.60	1,171	3.32	12.9
Damaging and infringing of information by personal information managers	125	0.31	158	0.44	26.4
Notifying when consigning personal information processing as mandated	6	0.02	6	0.01	0.0
Notifying of management transfer as mandated	9	0.02	6	0.01	-33.3
Regarding personal information manager	26	0.07	10	0.02	-61.5
Lacking measures for technological and managerial protection	1,321	3.32	819	2.32	-38.0
Not destroying collected or provided information after purposes met	294	0.74	294	0.83	0.0
Demanding withdrawal of consent, reading or revision of information	949	2.38	680	1.93	-28.3
Making withdrawal of consent, reading and revision easier than collecting information	503	1.26	603	1.71	19.9
Collecting personal information of a child	27	0.07	19	0.05	-29.6
Damaging/infringing/stealing other persons'information such as the resident ID	10,148	25.49	6,303	17.92	-37.9
Other types that are not covered by the law (credit information, etc.)	24,144	60.65	23,893	67.94	-1.0
Total	**39,811**	**100**	**35,167**	**100**	**-11.7**

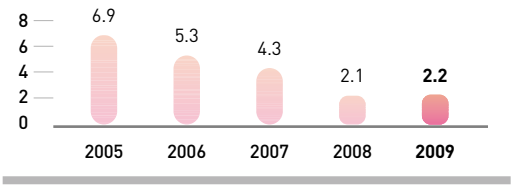
Source : Korea Internet and Security Agency

Status of Spam Distribution

■ Email Spam

According to the survey on the amount of e-mail spam received daily per person, which was carried

Figure 44 E-mail Spam, Daily Average



Note : Reference date is every year-end.
Source : Korea Internet and Security Agency, December 2009.

Table 28 E-mail Spam Distribution in 2009

Type	Loan	Illegal Drugs	Gam-bling	Adult	Other	Total
Amount/daily	0.66	0.57	0.09	0.18	0.66	**2.2**
Share (%)	30.6	26.4	4.2	8.3	30.6	**100**

Source : Korea Internet and Security Agency, December 2009.

out by Korea Internet and Security Agency to a group of 1,000 email users, the amount of e-mail spam in 2009 slightly increased to an average of 2.2 daily, up slightly from 2.1 in 2008. As for the contents of the spam, the survey result shows that advertisements for loans and gambling sites decreased significantly, while advertisements for adult websites and illegally distributed drugs including sexual performance drugs such as Viagra increased. Despite the decreasing number of loan advertisements, it still takes the largest share with 30.6%.

■ Mobile Spam

According to the survey on the amount of mobile spam received daily per person, which was carried out by Korea Internet and Security Agency to a group of 1,000 mobile phone users, the amount of mobile spam in 2009 slightly decreased to an average of 0.44 daily, down from an average of 0.46 in 2008.

In terms of the contents, the survey results shows that advertisements for gambling sites, chauffeur services and adult sites decreased significantly, while loan advertisements and other general advertisements somewhat increased. Among those classified as 'others', advertisements inviting subscribers to communication services such the Internet, TV and telephone takes up a significant portion, which might be attributed to the overheating market place of communication service providers as the market becomes saturated and a variety of new packaged products emerges.

Figure 45 Mobile Spam, Daily Average

Note : Reference date is every year-end.
Source : Korea Internet and Security Agency, December 2009.

Table 29 Mobile Spam Distribution in 2009

Type	Loan	Gam-bling	Chau-ffeur services	Adult	Other	Total
Amount/daily	0.22	0.06	0.03	0.02	0.11	**0.44**
Share (%)	50.0	13.6	6.8	4.5	25.0	**100**

Source : Korea Internet and Security Agency, December 2009.

B. Development of Polices and Technologies

Information Security Policies

■ Improve prevention and response system to DDoS attacks

The Korean government plans to step up the prevention and response system to DDoS (Distributed Denial of Service) attacks after experiencing the DDoS attack on July 7, 2009. In particular, an Emergency Rescue Service (ERS) system will be established for small-sized public offices and SMEs that are vulnerable to DDoS attacks. Moreover, 'Response scenarios for risk situations' will be developed to strengthen the national capacity in responding to cyber risks and public-private drills will be put to practice. Improving security activities of citizens for PC security and raising their awareness on information security will also follow in earnest.

■ Improve personal information protection system

The current lack of general laws regarding personal information protection is causing blind spots in law enforcement. In addition, each specific act such as the 'Act on Personal Information Protection in Public Organizations' for public organizations and the 'Act on Information and Communications Network' for telecommunication service providers has different standards for enforcement.

Considering the severity of the issue, the government plans to undergo law enactment on protection of all types of personal information and expand the regulated targets from public organizations and some providers to all legislative organizations and all providers or non-profit organizations, along with even stronger punishment schemes. In addition, it plans to prevent additional damages by rendering victims to promptly notify the incident information including the type of information infringed, the time of incident and procedures for damage relief right after the incident.

■ Establish Internet reliability through facilitated use of authorized certificates

Under the notion that the use of authorized certificates is concentrated only in Internet banking and electronic civil service application rather than being used as a type of identification means in credit card payment and signing into portal sites, the government plans to simplify procedures for certificate issuance for youngsters as well as the Koreans living overseas.

In addition, it will also enhance the stability of mobile transactions and build a base for the increased use of authorized certificates by facilitating mobile phone service use based on identification via

authorized certificates.

■ **Foster experts in information security and increase employment**

Korea is faced with trouble that security experts are leaving the country due to a lack of firm foundation for a human resource/manpower fostering system and a poor incentive system. This has led to a lack of information security experts and an unstable information security employment situation in Korea.

Therefore, the government plans to foster 'white hackers' by improving the qualification system for information security experts and providing jobs for winners of hacking competitions.

■ **Improve the security system of new IT convergence services such as smart phones**

The increased use of smart phones is likely to bring more incidents like hackings and DDoS attacks. Against such a possibility, the government has established and announced '10 Safety Regulations for Smart Phone Users' after organizing a public-private joint task force to take preemptive response measures and safeguards against new security threats such as smart phone hacking and malicious codes.

It also plans to define the roles of each government body regarding information security in smart phones, distribute response guidelines, and accelerate technological development of smart phone security solutions such as the example that prevents malignant code execution.

■ **Opening of e-Call Center☎118**

The Korean government and Korea Internet and Security Agency launched 'e-Call Center☎118' on January 18, 2009 for the purpose of receiving complaints and counseling on any issues related to the Internet. Though the government had operated a separate call center for personal information infringement, hacking, viruses or illegal spam, the incidents caused were due to more diverse types of damages. As customer inconveniences increased significantly, a more integrated counseling framework was demanded, which led to the expansion and reorganization of the center to 'e-Call Center☎118'.

Information Security Technology Development

As the biggest issue in Korea in 2009 being the 'July 7 DDoS Attack', many technologies to prevent and promptly respond to such attacks are being actively studied in the area of information security technology.

The R&D scope is also expanding from information security to physical security and security convergence. Especially with the launch of iPhones in late 2009, there has been an increasing demand for security technology development for various convergence services such as the cloud computing service, smart grid, and future Internet.

After the DDoS Attack on July 7th, security technologies for preventing Internet incidents are currently being studied. In particular, four projects are currently underway in collaboration with each other to prevent any chance of any second DDoS incident. They are regarding; i) technology that actively detects and responds to a new bot-net; ii) technology that automatically analyzes intelligent malignant codes and detects their roots; iii) technology to respond to DDoS attack to minimize damages from immediate response; and iv) global cooperation-based integrated security control system for efficient sharing of incident information.

8. Global ICT Cooperation

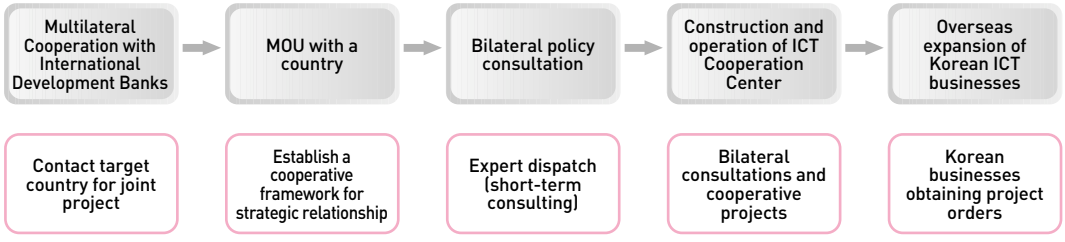
A. Global ICT Projects

After joining the World Bank Development Gateway Foundation as a founding member in December 2001, Korea has provided technological and policy consulting service to developing countries based on its experience and success in informatization. The importance of official development aid/assistance (ODA) through informatization is especially gaining attention as Korea has joined the OECD Development Assistance Committee (DAC) and its status has significantly improved within international organizations.

Specifically, the fact that Korea was ranked at the top in the UN E-government Development Index assessment back in April 2001 and that its experience is being introduced as the best practice and benchmark implies that its informatization has reached the world-class level and Korea's contribution to the international community needs to be increased to reflect its level of standing.

The Korean government has selected countries that have high potential in trade, economic, and E-government cooperation or those that are selected as ODA priority countries by the international community and has carried out various activities including ICT consultation, ICT Cooperation Center operation, and ICT learning programs. Recently, it is interested in leading the efforts in global ICT cooperation to overseas expansion of Korean businesses and job creation, adding further values through international cooperation.

Figure 46 | Value Chain in Global ICT Cooperation



Source : Ministry of Public Administration and Security, 'Informatization Export Strategy', January 2010.

Cooperation with International Organizations

The government is endeavoring to join in the efforts for international development through a cooperative framework with international organizations and to establish a favorable environment for Korean ICT companies to expand overseas. It is considered that cooperation with international organizations that have such significant global influence helps enhance the national status and build a favorable environment for overseas market development. In this regard, the government has joined hands with international development banks for dispatching experts and providing joint consultations. In 2009, it worked on many cooperative projects with Asian Development Bank (ADB), Africa Development Bank (AfDB), World Bank (WB), and Inter-American Development Bank (IDB) (refer to table 30). In early 2010 when Korea earned the top ranking in the UN E-government Development Index, OECD requested Korea to support E-government projects in the Middle East and the Northern Africa. With the Korean economy improving and getting stronger as well as highly recognized performances in the area of informatization, such requests from international organizations are expected to increase in the future.

Table 30 | ICT Cooperation with International Organizations in 2009

International Organization	Overview	Cooperation in 2009
Asian Development Bank (ADB)	• Location: Manila, Philippines • Foundation: 1966 (member since 1966) • Members: 67 countries (48 from Asia, 19 from other regions) • Object: To facilitate economic growth and cooperation in the Asia-Pacific region and to support economic development of developing countries in the region	• Discussions on ICT cooperation during ADB Vice President's visit to Korea (May 2009) and LOI signed between ADB and MOPAS (July 2009) • Exchange of Aide-Memoire on constructing Asia Knowledge Belt using e-Asia fund - Provided ICT policy evaluation and advice on the master plan for major Asian countries (Mongolia, Vietnam, Philippines, etc.) - Provide capacity development program as demanded by each country
Africa Development Bank (AfDB)	• Location: Tunis • Foundation: 1964 (member since 1982) • Members: 77 countries (54 from Africa, 23 from other regions) • Object: To contribute to economic and socialdevelopment of Africa through resource procurement and development project support	• Prior discussions on signing LOI with AfDB - Discussed the issue in the Regional ICT Conference of KOAFEC (April 2009, Egypt) - Held discussions on future cooperation with MDB delegation who visited Korea for ICT Learning program
World Bank	• Location: Washington, D.C, USA • Foundation: 1944 (member since 1955) • Members: 184 countries • Object: To provide financial support to developing countries around the world and advise them on development plans and their execution	• Cooperation in the area of ICT such as broadcasting and communication infrastructure, etc. • Joint organization of Korea ICT Day (Nov. 2009) - Date and venue: November 5, 2009, World Bank Office - Theme: Green ICT, New SoC, Knowledge-based infrastructure, job creation, etc.

Table 30 ICT Cooperation with International Organizations in 2009

International Organization	Overview	Cooperation in 2009
Inter-American Development Bank (IDB)	• Location: : Washington, D.C., USA • Foundation: 1959 (member since 2005) • Members: 184 countries • Object: To provide financial aid for economic and social development of countries in Latin America	• Korea-IDB Cooperation Seminar (Nov. 2009) - Introduced current status and projects of IDB and NIA - Discussed future cooperation for 2010 and beyond

Source : Adapted from Ministry of Public Administration and Security, 'Informatization Export Strategy', January 2010.

ICT Cooperation Centers

The Korean government establishes and operates ICT Cooperation Centers (ICTCC) with newly industrializing countries and promotes informatization and mutual cooperation through joint projects and technological exchange. ICTCCs serve as a foundation for transferring Korea's experiences, know-how and technology for informatization, increasing Korea's global influence and supporting overseas expansion of Korean businesses.

Starting from the establishment of two ICTCCs in Mexico and Chile in 2002 and 2003, the project operation gained momentum and led to the establishment of two more Centers in Turkey in 2007 and in South Africa in 2008. The Centers in Mexico, Chile and Turkey have already completed operation and the Center in South Africa is currently under operation.

Table 31 ICT Cooperation with International Organizations in 2009

Center	Establishment Location	Operation	Supervising Organization	No. of Staff	Current Status
Korea-Mexico ICTCC	2003.10 INFOTEC	2003.10 ~ 2006.11 (3 years)	MIC (Korea) Ministry of Communications and Transport (Mexico)	Korea 1 Mexico 7	Operation completed
Korea-Chile ICTCC	2004.04 University of Chile	2004.04 ~ 2006.09 (2 years and 6 months)	MIC (Korea) Ministry of Economy (Chile)	Korea 1 Chile 4	Operation completed
Korea-Turkey ICTCC	2007.03 TURKSAT	2007.03 ~ 2009.12 (2 years and 10 months)	MOPAS (Korea) Ministry of Communications and Transport (Turkey)	Korea 1 Turkey 5	Operation completed
Korea-South Africa ICTCC	2008.10 MESI	2008.10 ~ 2010.12 (2 years and 3 months)	MOPAS (Korea) Ministry of Communications (South Africa)	Korea 1 South Africa 5	Under operation

Source : National Information Society Agency, 'Project Report on 2009 ICTCC Operation', December 2009.

B. Official Development Assistance in ICT

ICT and Policy Assistance Program for Developing Countries

In December 2009, Korea joined the OECD Development Assistance Committee (DAC) and officially became an advanced donor. Therefore, Korea's overseas aid projects are expected to increase and be carried out in a more systematic manner. Also in the area of informatization, the importance of not only the overseas aid 'in ICT' itself but also the overseas aid 'through ICT' is increasing along with the expanding scale for more efficient and influential support.

The ICT and policy assistance program for developing countries is a knowledge-transfer initiative that provides Korea's experiences in informatization or technical assistance. It mainly consists of establishing national information (or E-government) master plans, constructing high-speed information and communication networks, E-government services such as e-procurement, e-customs, and patent informatization, government-wide computing facilities or information systems interoperability. Sometime, feasibility studies on applications of specific information and communication technologies such as mobile smart office are also included.

Table32 | ICT Cooperation with International Organizations in 2009

		Type
1	Technology and policy consultation for creating demand and expanding supply of broadband service in India	Consultation
2	Technologyand policy consultation for diffusing broadband service in Pakistan	Consultation
3	Feasibility study on Bangladeshi E-government G2C service	Feasibility study
4	Technical review on Vietnamese ICT development project	Technical review
5	Technical review on Korea's broadband policy reports (including recommendations for developing countries)	Technical review
6	Study on methods for supplying mobile infrastructure and services for developing countries (for advising to developing countries)	Joint study
7	Comprehensive consultation on national informatization of South Africa	On-site consultation
8	Comprehensive consultation on national informatization of Turkey	On-site consultation
9	Transfer of Korea's E-government experiences and practices to the government of Argentina	Experience sharing
10	Transfer of Korea's experiences and practices to the government of Venezuela	Experience sharing
11	Study on the project for establishing ICT implementation plans for Colombia - joint study for creating information culture	Joint study
12	Project for establishing ICT implementation plans for Colombia - on-site training	Training
13	Auditing of project for constructing Cambodian Public Administration Information System (PAIS)	Auditing
14	Equipment inspection for constructing Cambodian Public Administration Information System (PAIS)	Inspection

Improving the Environment for Information Use

Since 2002, the Ministry of Public Administration and Security and the National Information Society Agency have implemented projects for improving information usage environment such as construction of Information Access Centers and distribution of used PCs to overseas developing countries around the world in order to spread information technology and the culture of Korea in order to enhance Korea's role as the strategic base for future ICT expansion.

The Information Access Center construction project is a program that establishes and supports Information Access Centers (IAC) that consist of ICT training labs, Internet lounges, seminar rooms, and administrative offices that aims to close the digital divide within a country and between countries.

In addition, the project for distributing used PCs to developing countries is part of the efforts to improve the information usage environment in those countries and has been carried out by National Information Society Agency since 1998. Personal computers that have been used in government and public agencies in Korea have been collected and repaired in order to be provided to the

Table 33 Basic Facilities of Information Access Centers

Facility	Size	Provided equipment
ICT training lab	30 seats	31 PCs, 1 multi-function printer, 1 beam projector set, A/V equipment, training equipment
Internet lounge	30 seats	30 PCs, 1 multi-function printer, 1 PDP TV set
Seminar room	50 seats	1 PC, 1 beam projector set, A/V equipment
Administrative Office	3 seats	3 PCs, 1 multi-function printer, 1 photocopy machine, 1 server

Source : National Information Society Agency, 2009.

Table 34 Used PC Distribution to Each Region

Year	1998	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Asia	109	20	230	1,412	1,355	1,820	2,547	2,826	1,251	420	**11,990**
CIS	76	40	200	544	397	353	770	770	419	750	**4,319**
Latin America	-	-	-	-	265	1,280	-	-	600	350	**2,495**
Africa	-	-	-	100	-	100	520	840	830	487	**2,877**
Europe	-	-	-	105	-	-	-	30	301	-	**436**
Total	**185**	**60**	**430**	**2,161**	**2,017**	**3,553**	**3,837**	**4,466**	**3,401**	**2,007**	**22,117**

Source : National Information Society Agency, 2009.

government or educational organizations of the beneficiary countries with the aim of improving the environment for their information use. Again, this project is contributing to the closing of digital divide between countries.

The government of Korea plans to continue to support the establishment of Information Access Centers in selected strategic countries that have high potential for market entry by Korean ICT businesses. Also by upgrading the Centers to digital knowledge-based centers through a connection to TEIN3 network, it seeks to explore and develop a variety of areas for cooperation with the respective partner countries.

As for the used PC distribution project, a more thorough analysis will be made on the status of the digital infrastructure in beneficiary countries or organizations as well as on the impact of PC penetration so as to make sure program turns out to be worthwhile and efficient.

Korea Internet Volunteers

Since 2001, Korea has organized groups of volunteers called Korea Internet Volunteers (KIV) including college students studying ICT and has supported and sent them out to developing countries where they provide ICT training and education to local government officials, students and teachers.

The Korea Internet Volunteers program is also classified as an ODA project and along with the measures to increase Korea's aid, the number of volunteers and target countries have been steadily increasing each and every year. The economic development and the improved status of Korea as a donor country have led to the expansion of overseas aid demand increasing from both home and abroad. By joining OECD DAC in 2009, Korea has clearly shown its firm commitment to increase overseas aid in the future.

In 2010, more volunteers - as many as 550 - are planned to be dispatched and the number of volunteers will continue to increase every year - up to average 600 per year.

Table 35 Number of Volunteers and Target Countries (2001 ~ 2009)

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Countries	20	27	42	32	33	29	36	41	18	**67**
Teams	61	47	87	75	86	80	87	117	130	**770**
Volunteers	175	206	345	300	320	304	323	442	481	**2,896**

Source : National Information Society Agency, 2009.

Fostering ICT manpower in Developing Countries

Korea's project for fostering ICT manpower in developing countries goes back as early as 1998 when it launched the 'Korea ICT Learning Program'. At that time, advanced countries including the United States and Japan were aggressively promoting invitational training programs for ICT manpower in other developing countries so that they could establish a foundation for their domestic ICT industry to expand. In this regard, Korea also came to take part in fostering overseas ICT manpower based on the need to expand into developing countries in the Asia-Pacific region and requests from the international community such as the Asia Pacific Telecommunity.

Fostering ICT manpower and human resources comes under implementation by the National Information Society Agency (NIA), which is an agency under the Ministry of Public Administration and Security, while the invitational study programs in the areas of broadcasting and communications are being carried out under the project name of 'Invitational Training Program for Overseas ICT Experts' by the Korea Internet and Security Agency under the Korea Communications Commission.

The project in 2010 will be designed and operated so as to continue effective contributions for Korean businesses to expand with such an aim considered right from the stage of planning. Moreover, Korea will focus on improving the effectiveness of the training courses by designing tailored programs for each region or country.

Table 36 Manpower Fostering Project in 2009

Type	Course	Time	No. of invitees
Training in Korea	E-government SI - course 1	3.18 ~ 3.27	15
	National Informatization	4.15 ~ 4.24	11
	E-government SI - course 2	5. 6 ~ 5.15	12
	Information security	6. 3 ~ 6.12	17
	E-government course for high-level officials	10. 5 ~ 10. 9	17
	International Development Banks	6.15 ~ 6.20	9
	Workshop for promoting joint project from e-ASIA fund	12. 7 ~ 12.11	17
Local training	E-government in South Africa	9.18 ~ 9.21	63
	E-government in Paraguay	11.23 ~ 11.27	79
Digital Opportunity Forum	Africa Digital Opportunity Forum (Rabat, Morocco)	8.30 ~ 8.31	200 participants from 17 countries

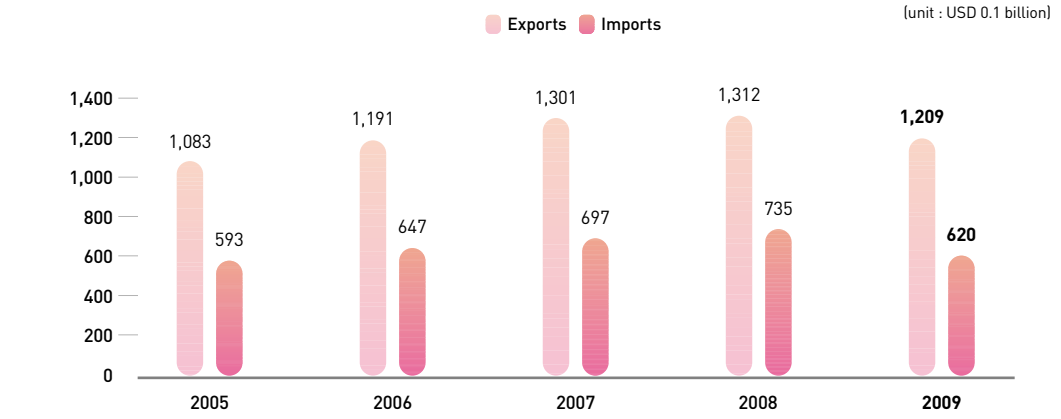
Source : National Information Society Agency, 2009.

9. ICT Industry Exports and Imports

Overview of ICT Exports and Imports

ICT exports in 2009 decreased 7.8% to USD 120.9 billion due to the global economic stagnation and the following decrease of consumer confidence in major ICT countries such as China and the United States. All industries' exports also decreased 13.9% from the previous year, which is a rate of 1.8 times greater than the rate of decrease in the ICT industry; whereas the share of ICT exports increased by 2.2% points from 31.1% in 2008 to 33.3% in 2009.

Figure 47 ICT Exports



Source : National IT Industry Promotion Agency

Table 37 Exports and Imports of ICT Industry and All Industries

(unit : USD 0.1 billion, %)

Type		2005	2006	2007	2008	2009	CAGR (2005~2009)
All industries	Export	2,844 (12.0)	3,255 (14.4)	3,715 (14.1)	4,220 (13.6)	**3,635 (-13.9)**	6.3
	Import	2,612 (16.4)	3,094 (18.4)	3,568 (15.3)	4,353 (22.0)	**3,231 (-25.8)**	5.5
	Balance	232	161	146	-133	**404**	14.9
ICT industry	Export	1,083 (8.6)	1,191 (10.0)	1,301 (9.2)	1,312 (0.8)	**1,209 (-7.8)**	2.8
	Import	593 (9.3)	647 (9.1)	697 (7.8)	735 (5.4)	**620 (-15.6)**	1.1
	Balance	490	544	604	576	**589**	4.7
ICT industry share	Export	38.1	36.6	35.0	31.1	**33.3**	-
	Import	22.7	20.9	19.5	16.9	**19.2**	-

Source : National IT Industry Promotion Agency

ICT Exports by Item

Semiconductors were the top export item again in 2009 (USD 31.0 billion), decreasing 5.3% since 2007. Semiconductor exports to China, the world's ICT production base, increased (including exports to Hong Kong, USD 14.8 billion, increasing 5.6%) whereas its exports to the United States (USD 2.4 billion, decreasing 4.4%) and EU (USD 2.1 billion, decreasing 7.2%) decreased.

Panel display exports amounted to USD 26.5 billion, increasing 3.2% from the previous year, and became the export item that has continued a growth rate for 9 consecutive years since 2000 even when the economy has been sluggish at time during this period. While China led the increase in panel display exports (including exports to Hong Kong, USD 1.5 billion, increasing 21.1%), exports to the United States (USD 0.7 billion, decreasing 35.4%), Japan (USD 0.9 billion, decreasing 30.2%), and EU (USD 4.6 billion, decreasing 13.5%) fell.

Though mobile phone exports (USD 28.68 billion, decreasing 14.3%) showed a slight fall due to the increased share of overseas production for obtaining price competitiveness, its share increased up to the 30 % share range for the first time ever due to a diverse product line-up and aggressive marketing in emerging markets. Mobile phone exports to Japan (USD 0.8 billion, increasing 9.4%) continued to grow for 8 years and the exports to the United States (USD 8.3 billion, decreasing 0.7%) also did quite well against the global economic recession by stepping up and increasing provider-oriented marketing and diversified product line-ups. Exports to China (including Hong Kong, USD 8.9 billion, decreasing 4.5%), mainly importing parts, decreased by one-digit level and exports to EU (USD 0.4 billion, decreasing 33.1%), Eastern Europe (USD 1.3 billion, decreasing 14.1%) and Latin America (USD 1.4 billion, decreasing 24.2%) showed two-digit rates of decrease.

ICT exports in 2010 are expected to experience overall growth because of the economic recovery of major countries including the United States and China. Semiconductor and panel display exports are also expected to grow from the increased share in the global market, increased demand from the World Cup Games in South Africa, and the release of Microsoft's Windows 7. Mobile phone exports as well are expected to increase due to aggressive targeting of emerging markets and the smart phone market gaining market share as well. However, intensified global competition from the economic recovery as well as falls in the unit price and exchange rates and uncertainties of the global economy are likely to influence the restrictions in exports.

Table 38 ICT Export Volume by Sector

(unit : USD 0.1 billion, %)

		2005	2006	2007	2008	2009
ICT industry	Export	1,082.5	1,191.1	1,301.0	1,311.6	**1,209.5**
	(Rate of Increase)	(8.6)	(10.0)	(9.2)	(0.8)	**(-7.8)**
	Share in entire industries	(38.1)	(36.6)	(35.0)	(31.1)	**(33.3)**
	Import	592.7	646.8	697.3	735.2	**620.2**
	(Rate of Increase)	(9.3)	(9.1)	(7.8)	(5.4)	**(-15.6)**
	Share in entire industries	(22.7)	(20.9)	(19.5)	(16.9)	**(19.2)**
	Balance	489.9	544.3	603.7	576.4	**589.3**
Information and Communication Equipment		983.4	1,078.7	1,194.4	1,195.5	**1,098.1**
(Rate of Increase)		(8.6)	(9.7)	(10.7)	(0.1)	**(-8.1)**
Electronic parts		461.5	577.6	654.7	637.1	**627.2**
(Rate of Increase)		(27.1)	(25.2)	(13.3)	(-2.7)	**(-1.6)**
Semiconductors		320.1	373.2	390.4	327.9	**310.4**
(Rate of Increase)		(18.4)	(16.6)	(4.5)	(-16.0)	**(-5.3)**
Memory semiconductors		160.6	171.1	223.9	170.3	**158.7**
(Rate of Increase)		(-0.5)	(6.6)	(30.8)	(-24.0)	**(-6.8)**
Flat panel display		93.2	155.3	215.8	257.0	**265.2**
(Rate of Increase)		(139.2)	(66.6)	(38.9)	(19.1)	**(3.2)**
Computers and peripherals		132.2	117.2	129.2	98.4	**69.8**
(Rate of Increase)		(-20.4)	(-11.3)	(9.0)	(-23.9)	**(-29.1)**
Computers		4.3	3.8	3.2	4.1	**4.7**
(Rate of Increase)		(-43.5)	(-13.5)	(-14.2)	(25.9)	**(16.0)**
Peripherals		88.1	81.4	102.7	76.2	**52.6**
(Rate of Increase)		(-6.1)	(-7.6)	(26.1)	(-25.8)	**(-30.9)**
Communication and broadcasting equipment		274.3	271.0	306.7	360.3	**309.7**
(Rate of Increase)		(6.5)	(-1.2)	(13.2)	(17.5)	**(-14.0)**
Wired communication equipment		9.3	10.2	13.5	13.9	**10.5**
(Rate of Increase)		(18.9)	(9.9)	(31.6)	(3.1)	**(-24.1)**
Wireless communication equipment		261.2	257.4	292.0	345.1	**298.0**
(Rate of Increase)		(6.4)	(-1.5)	(13.5)	(18.2)	**(-13.7)**
Mobile phones		247.4	245.1	280.9	334.4	**286.7**
(Rate of Increase)		(8.7)	(-0.9)	(14.6)	(19.1)	**(-14.3)**
Video and audio equipment		104.5	103.1	93.6	89.9	**80.4**
(Rate of Increase)		(-4.9)	(-1.3)	(-8.9)	(-3.9)	**(-10.6)**
Magneto-optical media		11.0	9.8	10.2	9.7	**11.0**
(Rate of Increase)		(28.4)	(-11.2)	(16.2)	(-4.2)	**(13.2)**
ICT application / broad IT		99.1	112.4	106.6	116.2	**111.4**
(Rate of Increase)		(4.8)	(13.4)	(-5.1)	(9.0)	**(-4.1)**

Source: National IT Industry Promotion Agency

Top Countries in Exports and Imports

The top 10 countries in terms of ICT exports from Korea in 2009 were China, US, Hong Kong, Japan, Mexico, Singapore, Taiwan, Poland, Germany and Slovakia. Their share in total reached 78.7% in 2009, up from 75.9% in 2008.

The top 10 countries in terms of ICT imports into Korea in 2009 were China, Japan, Taiwan, US, Singapore, Malaysia, Germany, Philippines, Thailand and France. Their share in total reached 92%.

Table 39 Top 10 Countries in ICT Export from Korea

(unit : USD 0.1 billion, %)

Rank	2007			2008			2009		
	Country	Volume	Share	Country	Volume	Share	Country	Volume	Share
1	China	358.8	27.6	China	382.2	29.1	China	393.4	32.5
2	USA	153.7	11.8	USA	169.6	12.9	USA	159.7	13.2
3	Hong Kong	107.5	8.3	Hong Kong	106.3	8.1	Hong Kong	108.0	8.9
4	Japan	93.7	7.2	Japan	79.8	6.1	Japan	66.2	5.5
5	Taiwan	69.3	5.3	Mexico	60.4	4.6	Mexico	49.0	4.0
6	Singapore	52.7	4.1	Taiwan	53.0	4.0	Singapore	46.9	3.9
7	Mexico	51.6	4.0	Singapore	47.7	3.6	Taiwan	44.1	3.6
8	Germany	51.0	3.9	Germany	37.0	2.8	Poland	33.3	2.8
9	Malaysia	32.1	2.5	Malaysia	29.9	2.3	Germany	29.1	2.4
10	UK	29.6	2.3	Poland	29.3	2.2	Slovakia	22.4	1.9
Ref	China(Hong Kong)	466.3	35.8	China(Hong Kong)	488.5	37.2	China(Hong Kong)	501.5	41.5
	EU	223.5	17.2	EU	218.0	16.6	EU	170.4	14.1
Total		**1,301.0**	**100.0**	**Total**	**1,311.6**	**100.0**	**Total**	**1209.5**	**100.1**
Top 10		**1,000.0**	**76.9**	**Top 10**	**995.1**	**75.9**	**Top 10**	**952.2**	**78.7**

Source: National IT Industry Promotion Agency

Table 40 Top 10 Countries in ICT Imports into Korea

(unit : USD 0.1 billion, %)

Rank	2007			2008			2009		
	Country	Volume	Share	Country	Volume	Share	Country	Volume	Share
1	China	194.2	27.8	China	229.8	31.3	China	198.7	32.0
2	Japan	140.3	20.1	Japan	136.1	18.5	Japan	103.3	16.7
3	USA	93.7	13.4	USA	84.1	11.4	Taiwan	68.4	11.0
4	Taiwan	70.3	10.1	Taiwan	72.0	9.8	USA	64.3	10.4
5	Singapore	52.8	7.6	Singapore	63.7	8.7	Singapore	59.1	9.5
6	Malaysia	25.7	3.7	Germany	25.6	3.5	Malaysia	22.6	3.6
7	Germany	22.7	3.3	Malaysia	24.5	3.3	Germany	19.4	3.1
8	Thailand	16.0	2.3	Philippines	14.2	1.9	Philippines	14.3	2.3
9	Philippines	13.8	2.0	Thailand	13.7	1.9	Thailand	13.0	2.1
10	Hong Kong	12.8	1.8	Hong Kong	11.0	1.5	France	7.3	1.2
Ref	China(Hong Kong)	207.0	29.7	China(Hong Kong)	240.9	32.8	China(Hong Kong)	205.8	33.2
	EU	56.3	8.1	EU	60.6	8.2	EU	45.5	7.3
Total		**697.3**	**100.0**	**Total**	**735.2**	**100.0**	**Total**	**620.2**	**100.0**
Top 10		**642.3**	**92.1**	**Top 10**	**674.8**	**91.8**	**Top 10**	**570.5**	**92.0**

Source: National IT Industry Promotion Agency

Annex :
Infomatization Key Statistics

2010 Informatization White Paper

Global Data 〉〉

Domestic Data 〉〉

Annex : Infomatization Key Statistics

Global Data

Domestic Data

Global Data

1. Global Indices on Informatization

1-1 E-government Development Index Rankings

Country	Rank			Score (2010)
	2010	2008	Difference	
Korea	**1**	**6**	**5(▲)**	**0.8785**
US	2	4	2(▲)	0.8510
Canada	3	7	4(▲)	0.8448
UK	4	10	6(▲)	0.8147
Netherlands	5	5	(=)	0.8097
Norway	6	3	3(▽)	0.8020
Denmark	7	2	5(▽)	0.7872
Australia	8	8	(=)	0.7863
Spain	9	20	11(▲)	0.7516
France	10	9	1(▽)	0.7510
Singapore	11	23	12(▲)	0.7476
Sweden	12	1	11(▽)	0.7474
Bahrain	13	42	29(▲)	0.7363
New Zealand	14	18	4(▲)	0.7311
Germany	15	22	7(▲)	0.7309
Belgium	16	24	8(▲)	0.7225
Japan	17	11	6(▽)	0.7152
Switzerland	18	12	6(▽)	0.7136
Finland	19	15	4(▽)	0.6967
Estonia	20	13	7(▽)	0.6965
Ireland	21	19	2(▽)	0.6866
Iceland	22	21	1(▽)	0.6697
Liechtenstein	23	49	26(▲)	0.6694
Austria	24	16	8(▽)	0.6679
Luxembourg	25	14	11(▽)	0.6672

Source : UN, 'UN E-government Survey 2010', April 2010.

1-2 E-participation Index Rankings

Country	Rank			Score (2010)
	2010	2008	Difference	
Korea	**1**	**2**	**1(▲)**	**1.0000**
Australia	2	5	3(▲)	0.9143
Spain	3	34	31(▲)	0.8286
New Zealand	4	6	2(▲)	0.7714
UK	4	25	21(▲)	0.7714
Japan	6	11	5(▲)	0.7571
US	6	1	5(▽)	0.7571
Canada	8	11	3(▲)	0.7286
Estonia	9	8	1(▽)	0.6857
Singapore	9	10	1(▲)	0.6857
Bahrain	11	36	25(▲)	0.6714
Malaysia	12	41	29(▲)	0.6571
Denmark	13	3	10(▽)	0.6429
Germany	14	74	60(▲)	0.6143
France	15	3	12(▽)	0.6000
Netherlands	15	16	1(▲)	0.6000
Belgium	17	28	11(▲)	0.5857
Kazakhstan	18	98	80(▲)	0.5571
Lithuania	19	20	1(▲)	0.5286
Slovenia	20	55	35(▲)	0.5143
Austria	21	20	1(▽)	0.5000
Norway	21	16	5(▽)	0.5000
Cyprus	23	98	75(▲)	0.4857
Sweden	23	9	14(▽)	0.4857
Croatia	25	78	53(▲)	0.4571

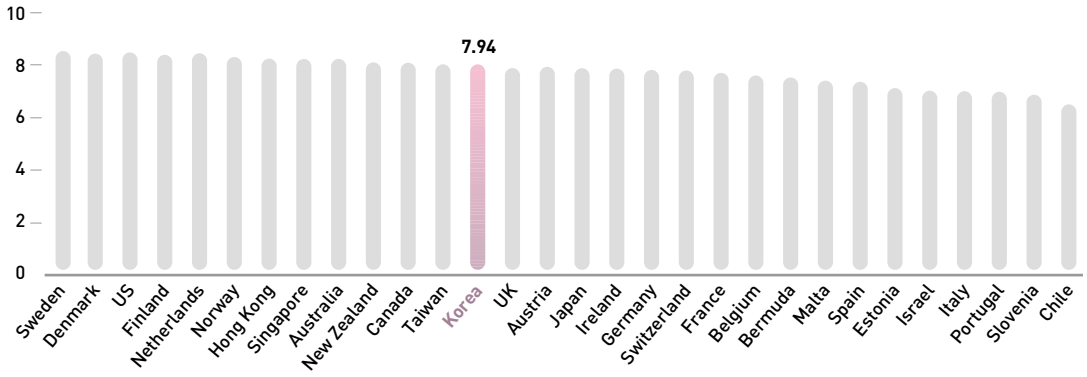
Source : UN, 'UN E-government Survey 2010', April 2010.

1-3 ICT Development Index Rankings

Country	Rank			Score (2010)
	2010 (2008 data)	2009 (2007 data)	Difference	
Sweden	1	1	(=)	7.85
Luxembourg	2	6	4(▲)	7.71
Korea	**3**	**2**	**1(▽)**	**7.68**
Denmark	4	3	1(▽)	7.53
Netherlands	5	5	(=)	7.37
Iceland	6	4	2(▽)	7.23
Switzerland	7	8	1(▲)	7.19
Japan	8	7	1(▽)	7.12
Norway	9	9	(=)	7.11
UK	10	12	2(▲)	7.07
Hong Kong	11	10	1(▽)	7.04
Finland	12	11	1(▽)	7.02
Germany	13	13	(=)	6.95
Singapore	14	15	1(▲)	6.95
Australia	15	14	1(▽)	6.90
New Zealand	16	16	(=)	6.81
Austria	17	19	2(▲)	6.72
France	18	22	4(▲)	6.55
US	19	17	2(▽)	6.54
Ireland	20	20	(=)	6.52
Canada	21	18	3(▽)	6.49
Estonia	22	25	3(▲)	6.41
Belgium	23	21	2(▽)	6.36
Macao	24	28	4(▲)	6.29
Spain	25	26	1(▲)	6.27
Slovenia	26	27	1(▲)	6.26
Israel	27	23	4(▽)	6.19
Italy	28	24	4(▽)	6.15
UAE	29	33	4(▲)	6.11
Greece	30	31	1(▲)	6.03
Malta	31	29	2(▽)	5.82
Portugal	32	30	2(▽)	5.77
Bahrain	33	35	2(▲)	5.67
Hungary	34	34	(=)	5.64
Lithuania	35	32	3(▽)	5.55
Croatia	36	37	1(▲)	5.53
Czech Republic	37	39	2(▲)	5.45
Slovakia	38	41	3(▲)	5.38
Cyprus	39	40	1(▲)	5.37
Poland	40	36	4(▽)	5.29

Note : The ICT Development Index is an index newly developed in 2009 by integrating ITU's 'Digital Opportunity Index' and 'ICT Development Index'.
Source : ITU, 'Measuring the Information Society - The ICT Development Index', March 2010.

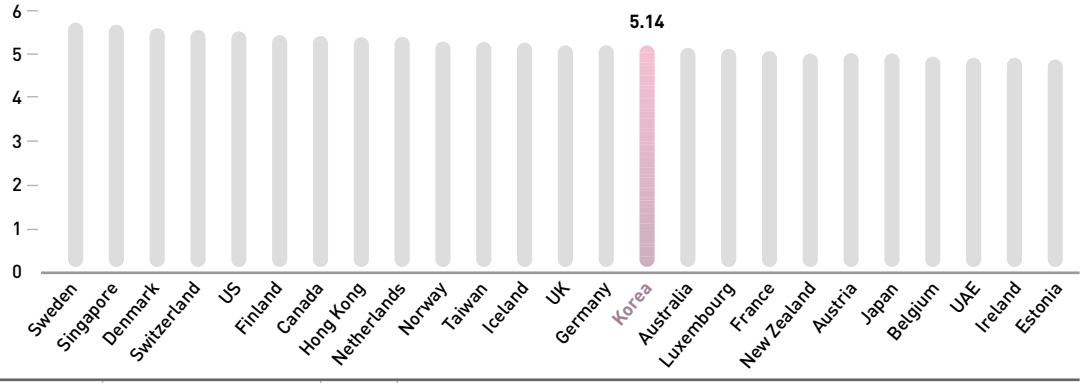
1-4 Digital Economy Rankings



Country	Rank			Overall Score (2009)	Category Score (2010)a					
	2010	2009	Difference		Connectivity (20%)	Business Environment (15%)	Social & Cultural Environment (15%)	Legal Environment (10%)	Government Policy and Vision (15%)	Consumer & Business Adoption (25%)
Sweden	1	2	1(▲)	8.49	8.20	8.13	8.53	8.25	8.90	8.75
Denmark	2	1	1(▽)	8.41	7.85	8.18	8.47	8.10	8.70	8.90
US	3	5	2(▲)	8.41	7.35	7.85	9.00	8.70	9.25	8.60
Finland	4	10	6(▲)	8.36	8.00	8.30	8.47	8.35	8.00	8.85
Netherlands	5	3	2(▽)	8.36	8.05	8.05	8.07	8.45	8.25	9.00
Norway	6	4	2(▽)	8.24	7.95	7.95	8.00	8.30	8.05	8.90
Hong Kong	7	8	1(▲)	8.22	7.65	8.40	7.27	9.00	9.18	8.28
Singapore	8	7	1(▽)	8.22	7.35	8.63	7.33	8.70	9.13	8.48
Australia	9	6	3(▽)	8.21	7.35	8.24	8.53	8.50	8.85	8.18
New Zealand	10	11	1(▲)	8.07	6.80	8.17	8.60	8.45	8.50	8.29
Canada	11	9	2(▽)	8.05	7.15	8.33	7.87	7.95	8.75	8.35
Taiwan	12	16	4(▲)	7.99	7.00	7.95	8.40	8.15	8.55	8.15
Korea	**13**	**19**	**6(▲)**	**7.94**	**7.90**	**7.32**	**8.80**	**7.65**	**9.20**	**7.18**
UK	14	13	1(▽)	7.89	7.65	7.40	7.73	8.10	8.55	8.00
Austria	15	14	1(▽)	7.88	7.25	7.54	7.80	8.45	8.55	8.00
Japan	16	22	6(▲)	7.85	7.70	7.16	7.80	7.43	8.75	8.04
Ireland	17	18	1(▲)	7.82	7.20	7.75	7.60	8.00	7.85	8.40
Germany	18	17	1(▽)	7.80	7.60	7.82	8.00	8.05	7.40	7.98
Switzerland	19	12	7(▽)	7.72	7.80	8.33	7.93	7.93	6.80	7.65
France	20	15	5(▽)	7.67	6.80	7.54	7.60	7.85	8.20	8.10
Belgium	21	20	1(▽)	7.52	6.95	7.68	7.33	8.45	7.50	7.63
Bermuda	22	21	1(▽)	7.47	7.45	8.04	6.40	8.35	8.50	6.80
Malta	23	23	(=)	7.32	6.15	7.28	6.80	8.20	8.65	7.45
Spain	24	25	1(▲)	7.31	6.20	7.39	7.60	8.35	7.85	7.23
Estonia	25	24	1(▽)	7.06	6.40	7.16	6.77	8.40	7.98	6.60
Israel	26	27	1(▲)	6.96	6.30	7.39	7.50	7.05	7.05	6.83
Italy	27	26	1(▽)	6.92	6.45	6.32	7.60	8.45	6.55	6.88
Portugal	28	28	(=)	6.90	5.40	6.64	7.33	8.35	7.40	7.10
Slovenia	29	29	(=)	6.81	6.10	6.82	6.93	7.40	7.60	6.60
Chile	30	30	(=)	6.39	4.15	8.00	6.67	7.40	6.75	6.43

Source : EIU, 'Digital economy rankings', June 2010.

1-5 Networked Readiness Index Rankings

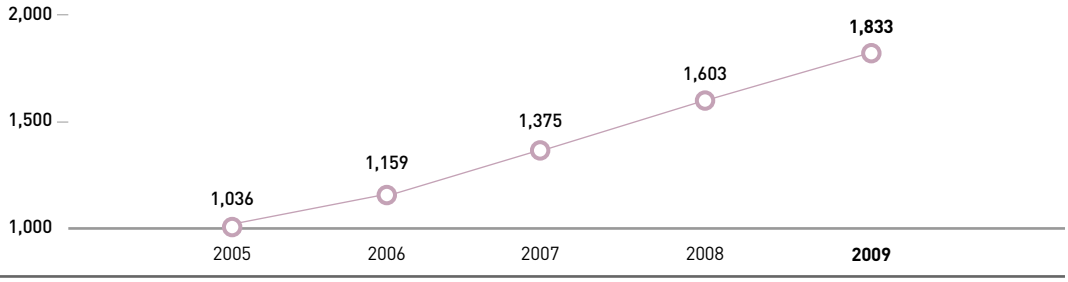


Country	Rank			Overall Score (2009~2010)	Subindex											
					Environment				Readiness				Usage			
	2009~2010	2008~2009	Difference			Market	Political/Regulatory	Infrastructure		Individual	Business	Government		Individual	Business	Government
Sweden	1	2	1(▲)	5.65	5.85	5.40	6.11	6.04	5.56	5.73	5.77	5.17	5.55	6.43	5.08	5.14
Singapore	2	4	2(▲)	5.64	5.44	5.49	6.33	4.51	5.94	6.11	5.59	6.12	5.55	5.63	5.16	5.85
Denmark	3	1	2(▽)	5.54	5.67	5.30	5.97	5.74	5.64	5.76	5.80	5.37	5.30	5.86	4.62	5.42
Switzerland	4	5	1(▲)	5.48	5.58	5.47	5.89	5.39	5.42	5.47	5.92	4.87	5.45	6.13	5.82	4.41
US	5	3	2(▽)	5.46	5.41	5.32	5.40	5.51	5.29	5.32	5.45	5.10	5.69	5.28	6.10	5.69
Finland	6	6	(=)	5.44	5.56	5.38	5.95	5.36	5.60	5.82	5.73	5.26	5.14	5.60	5.14	4.68
Canada	7	10	3(▲)	5.36	5.48	5.35	5.66	5.44	5.16	5.42	5.29	4.77	5.43	5.50	5.19	5.59
Hong Kong	8	12	4(▲)	5.33	5.23	5.69	5.63	4.36	5.25	5.94	4.90	4.92	5.51	5.73	5.33	5.48
Netherlands	9	9	(=)	5.32	5.45	5.25	5.79	5.32	5.15	5.47	5.51	4.49	5.36	6.24	4.91	4.94
Norway	10	8	2(▽)	5.22	5.60	5.32	5.90	5.58	5.13	5.31	5.18	4.89	4.94	5.60	4.07	5.17
Taiwan	11	13	2(▲)	5.20	4.86	5.15	4.53	4.91	5.22	5.28	5.10	5.28	5.53	5.35	5.47	5.78
Iceland	12	7	5(▽)	5.20	5.47	5.00	5.65	5.75	5.28	5.69	5.13	5.02	4.86	5.77	4.54	4.29
UK	13	15	2(▲)	5.17	5.35	5.10	5.63	5.31	4.81	4.94	4.94	4.55	5.35	5.72	5.11	5.21
Germany	14	20	6(▲)	5.16	5.19	5.00	5.77	4.80	5.11	5.24	5.56	4.52	5.20	5.30	5.49	4.80
Korea	**15**	**11**	**4(▽)**	**5.14**	**4.63**	**4.53**	**4.72**	**4.65**	**5.07**	**5.17**	**4.98**	**5.07**	**5.71**	**5.43**	**5.48**	**6.20**
Australia	16	14	2(▽)	5.06	5.31	5.12	5.93	4.90	4.97	5.16	4.97	4.77	4.89	5.16	3.91	5.60
Luxembourg	17	21	4(▲)	5.02	5.33	5.40	5.99	4.59	5.09	5.22	4.82	5.23	4.65	5.82	3.94	4.19
France	18	19	1(▲)	4.99	5.04	4.84	5.51	4.77	4.92	4.92	5.26	4.57	5.03	5.02	5.10	4.97
New Zealand	19	22	3(▲)	4.94	5.36	5.09	6.10	4.89	4.87	5.07	4.92	4.64	4.60	5.00	3.68	5.12
Austria	20	16	4(▽)	4.94	5.08	4.97	5.72	4.53	4.90	4.89	5.20	4.61	4.85	5.27	4.50	4.78
Japan	21	17	4(▽)	4.89	4.86	4.91	5.38	4.29	4.77	4.55	5.22	4.55	5.04	4.84	5.52	4.77
Belgium	22	24	2(▲)	4.86	4.91	4.95	5.04	4.72	5.01	5.33	5.42	4.28	4.66	4.92	4.55	4.52
UAE	23	27	4(▲)	4.85	4.68	5.23	4.92	3.90	5.53	5.74	5.10	5.75	4.34	4.69	3.86	4.47
Ireland	24	23	1(▽)	4.82	5.08	4.95	5.64	4.64	4.91	5.18	5.30	4.24	4.49	4.71	4.34	4.41
Estonia	25	18	7(▽)	4.81	4.77	5.02	5.10	4.21	4.98	5.11	4.76	5.05	4.67	5.18	3.52	5.33

Source : WEF, 'The Global Information Technology Report 2009-2010', March 2010.

2. Internet

2-1 Worldwide Internet Users (million)



Source : ITU, June 2010.

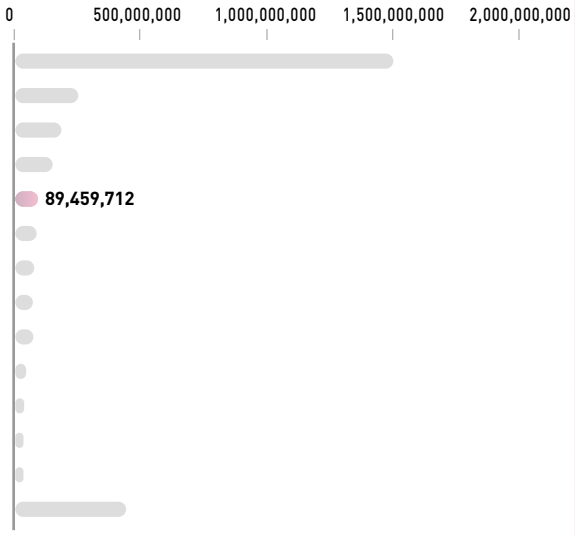
2-2 OECD Broadband Subscribers

Rank	Country	Number of Subscribers per 100 Inhabitants					Total Subscribers
		DSL	Cable	Fiber/LAN	Other	Total	
1	Netherlands	22.1	14.2	0.8	0.0	37.1	6,131,000
2	Denmark	22.4	10.1	4.2	0.3	37.1	2,046,000
3	Switzerland	25.1	10.0	0.3	0.3	35.6	2,780,050
4	Norway	20.9	8.6	4.3	0.1	33.9	1,637,500
5	**Korea**	**6.6**	**10.6**	**16.4**	**0.0**	**33.5**	**16,347,716**
6	Iceland	30.7	0.0	2.2	0.0	32.8	104,770
7	Sweden	17.8	6.2	7.4	1.0	32.4	3,022,379
8	Luxembourg	26.5	5.2	0.1	0.1	31.9	158,548
9	France	28.7	1.6	0.1	0.0	30.4	19,582,000
10	Germany	27.4	2.8	0.2	0.0	30.3	24,843,700
11	Canada	13.2	16.4	0.0	0.0	29.6	9,980,000
12	UK	23.3	6.2	0.0	0.0	29.5	18,213,290
13	Belgium	16.5	12.3	0.2	0.1	29.0	3,133,881
14	Finland	22.2	4.2	0.2	0.1	26.7	1,427,200
15	US	10.7	14.1	1.3	0.3	26.4	81,146,225
16	Japan	7.9	3.4	13.5	0.0	24.8	31,630,781
17	Australia	19.0	4.2	0.0	0.0	23.3	5,133,000
18	New Zealand	21.7	1.5	0.0	0.0	23.2	992,383
19	Austria	15.1	6.8	0.1	0.1	22.1	1,844,848
20	Spain	17.1	4.0	0.1	0.0	21.2	9,786,578
21	Italy	19.9	0.0	0.6	0.0	20.5	12,338,502
22	Ireland	16.0	3.4	0.1	0.0	19.5	870,562
23	Portugal	10.4	7.2	0.3	0.0	17.9	1,902,273
24	Hungary	8.2	8.4	1.1	0.1	17.8	1,785,046
25	Greece	17.0	0.0	0.0	0.0	17.0	1,918,630
26	Czech Republic	7.4	4.2	1.3	0.0	12.9	1,354,986
27	Poland	8.1	3.9	0.1	0.0	12.1	4,620,000
28	Slovakia	6.8	1.5	3.3	0.0	11.6	627,722
29	Chile	9.6	0.0	0.0	0.0	9.6	1,630,943
30	Mexico	6.8	2.0	0.0	0.5	9.2	9,921,407
31	Turkey	8.6	0.2	0.1	0.1	9.0	6,446,374
OECD Average		**13.9**	**6.7**	**2.6**	**0.1**	**23.3**	**283,358,294**

Note : Reference date is December 2009.
Source : OECD, 'OECD Broadband Statistics', June 2010.

2-3 IPv4 Addresses (as of June 2010)

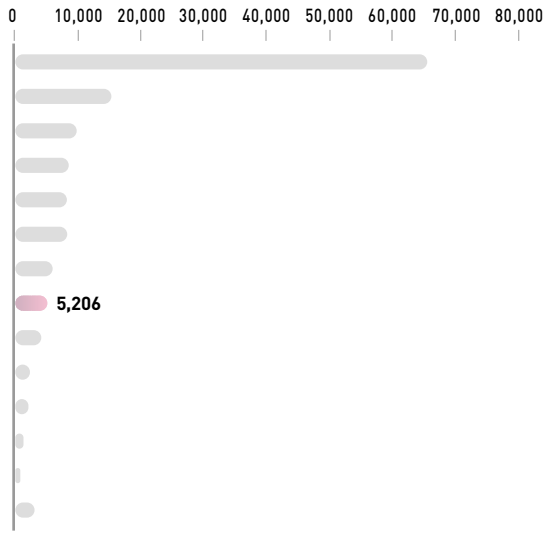
Rank	Country	No. of IPv4 Addresses
1	US	1,510,456,576
2	China	251,657,728
3	Japan	182,090,596
4	EU	148,599,264
5	**Korea**	**89,459,712**
6	Germany	87,927,800
7	Canada	78,734,080
8	UK	75,872,664
9	France	75,809,504
10	Australia	43,296,256
11	Brazil	36,046,336
12	Italy	35,078,720
13	Russia	32,427,272
14	Other	442,795,632
Total		**3,090,252,140**



Source : Korea Information and Security Agency.

2-4 IPv6 Addresses (as of June 2010)

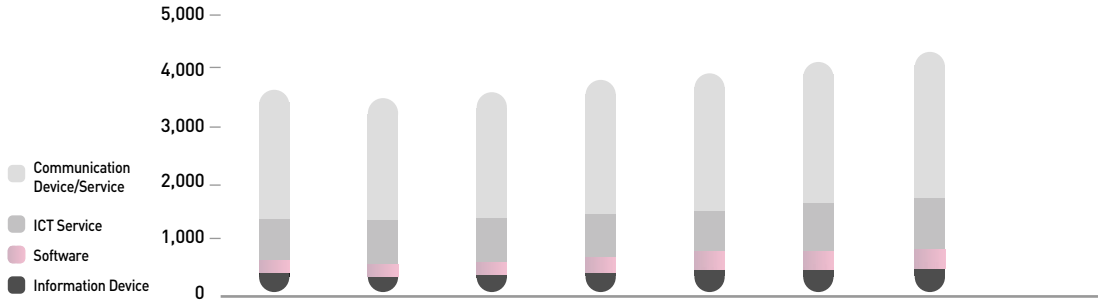
Rank	Country	No. of IPv6 Addresses (/32)
1	Brazil	65,728
2	US	15,324
3	Germany	9,909
4	Japan	8,502
5	France	8,364
6	Australia	8,338
7	EU	6,166
8	**Korea**	**5,206**
9	Italy	4,180
10	Taiwan	2,314
11	Poland	2,133
12	UK	1,290
13	Netherlands	673
14	Other	3,001
Total		**141,128**



Source : Korea Information and Security Agency.

3. ICT Industry

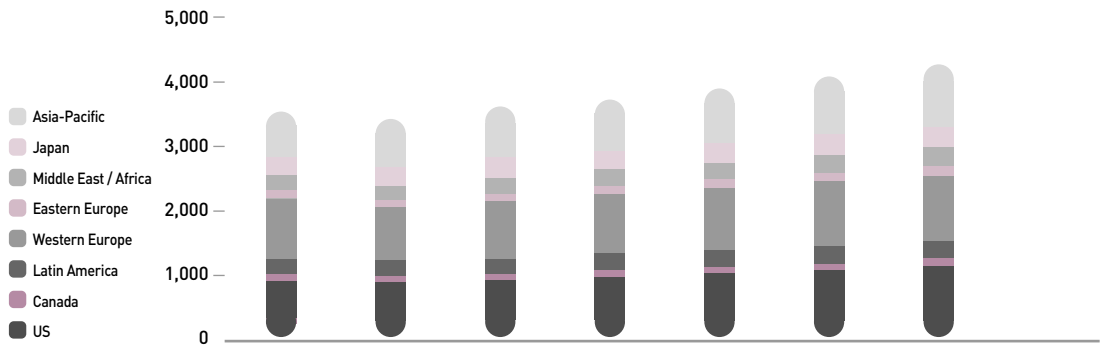
3-1 World ICT Market Volume and Forecast (USD billion, %)



Type		2008	2009	2010	2011	2012	2013	2014	Yearly Average Growth Rate
Information Device	Volume	381	333	353	371	388	403	419	4.7
	Growth Rate	-	-12.5	5.7	5.3	4.5	3.9	3.9	
Software	Volume	225	221	232	247	263	281	299	6.3
	Growth Rate	-	-2.1	5.1	6.3	6.7	6.7	6.7	
ICT Service	Volume	809	777	821	855	898	947	997	5.1
	Growth Rate	-	-4.0	5.7	4.1	5.1	5.4	5.3	
Communication Device/Service	Volume	1,958	1,892	1,988	2,065	2,146	2,228	2,306	4.0
	Growth Rate	-	-3.4	5.1	3.9	3.9	3.8	3.5	
Total	**Volume**	**3,374**	**3,223**	**3,394**	**3,538**	**3,696**	**3,858**	**4,021**	**4.5**
	Growth Rate	**-**	**-4.5**	**5.3**	**4.2**	**4.5**	**4.4**	**4.2**	

Source : Gartner, 'Gartner Market Databook', March 2010 Update' Gerald Van Hoy et al, April 2010.

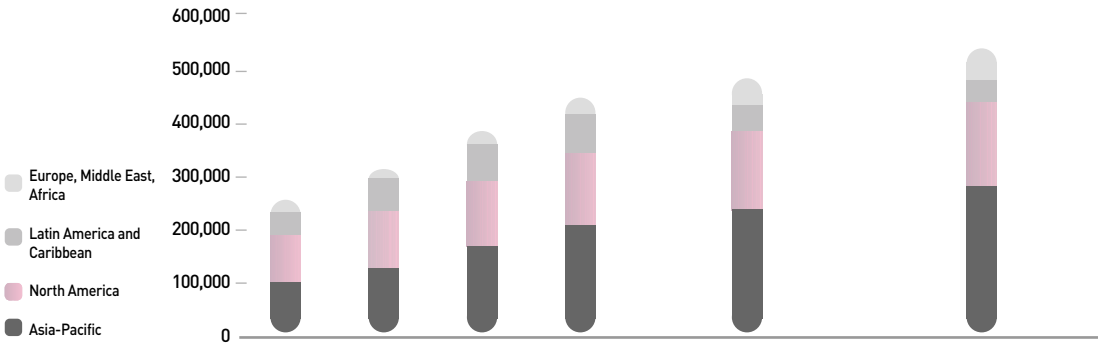
3-2 ICT Market Volume and Forecast by Region (USD billion, %)



Region		2008	2009	2010	2011	2012	2013	2014	Yearly Average Growth Rate
US	Volume	957	930	957	1,003	1,054	1,105	1,158	4.5
	Growth Rate	-	-2.9	2.9	4.9	5.0	4.9	4.7	
Canada	Volume	78	73	79	83	86	90	93	5.0
	Growth Rate	-	-6.7	8.2	4.6	4.4	4.1	3.9	
Latin America	Volume	251	238	265	282	299	315	330	6.7
	Growth Rate	-	-5.1	11.3	6.5	6.0	5.3	4.7	
Western Europe	Volume	905	820	865	890	915	943	971	3.4
	Growth Rate	-	-9.4	5.4	2.9	2.9	3.0	3.0	
Eastern Europe	Volume	170	138	139	144	151	160	170	4.2
	Growth Rate	-	-18.7	0.1	3.6	5.2	6.1	6.1	
Middle East / Africa	Volume	204	204	219	232	247	263	280	6.5
	Growth Rate	-	-0.3	7.4	6.2	6.1	6.6	6.4	
Japan	Volume	301	314	322	325	329	332	334	1.2
	Growth Rate	-	4.2	2.7	0.8	1.2	0.9	0.6	
Asia-Pacific	Volume	506	505	549	580	615	651	686	6.3
	Growth Rate	-	-0.2	8.7	5.6	6.1	5.8	5.4	

Source : Gartner, ‘Gartner Market Databook’, March 2010 Update' Gerald Van Hoy et al, April 2010.

3-3 CDMA Subscribers (1,000 persons, %)



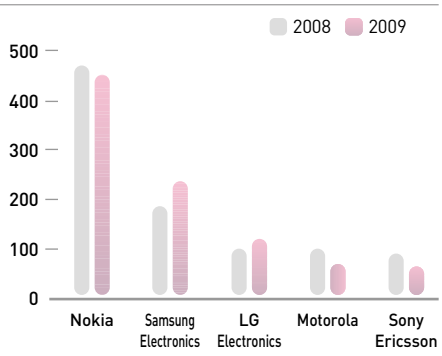
Region		2004	2005	2006	2007	2008	2009
Asia-Pacific	Subscriber	102,000	130,900	170,025	210,800	239,300	283,400
	Share	42.5	43.4	45.5	48.9	51.5	54.8
North America	Subscriber	92,100	107,500	123,380	137,500	148,300	156,900
	Share	38.3	35.6	33.0	31.9	31.9	30.4
Latin America and Caribbean	Subscriber	42,200	58,300	71,600	69,200	48,800	39,100
	Share	17.6	19.3	19.2	16.0	10.5	7.6
Europe, Middle East, Africa	Subscriber	3,900	5,200	8,498	13,600	Europe Subscriber 3,570	Europe Subscriber 4,785
						Middle East Subscriber 5,250	Middle East Subscriber 6,180
	Share	1.6	1.7	2.3	3.2	Africa Subscriber 19,480	Africa Subscriber 26,350
						Europe Share 0.8	Europe Share 0.9
						Middle East Share 1.1	Middle East Share 1.2
						Africa Share 4.2	Africa Share 5.1
Total	**Subscriber**	**240,200**	**301,900**	**373,503**	**431,100**	**464,700**	**516,715**
	Share	**100**	**100**	**97.7**	**96.8**	**100**	**100**

Note : Reference date for 2009 data is September 2009.
Source : CDG (CDMA Development Group), 3Q 2009, (www.cdg.org)

3-4 Mobile Terminal Shipments by Producer (million, %)

Producer	2008			2009		
	Shipment	Share	Rank	Shipment	Share	Rank
Nokia	472.3	38.6	1	440.9	36.4	1
Samsung Electronics	199.3	16.3	2	235.8	19.5	2
LG Electronics	102.8	8.4	4	122.1	10.1	3
Motorola	106.5	8.7	3	58.5	4.8	4
Sony Ericsson	93.1	7.6	5	54.9	4.5	5
Total	**1222.3**	**100.0**	-	**1211.2**	**100.0**	-

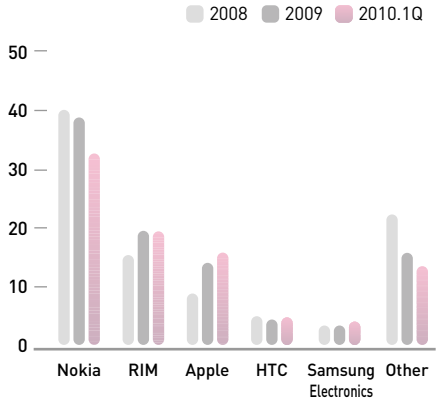
Source : Gartner



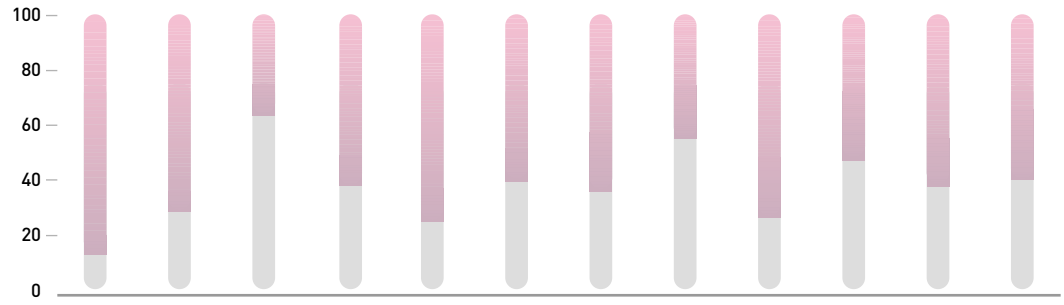
3-5 SmartPhone Shipment by Producer (million, %)

Pro-ducer	2008			2009			2010.1Q		
	Shipment	Share	Rank	Shipment	Share	Rank	Shipment	Share	Rank
Nokia	60.5	40.0	1	67.7	38.9	1	21.5	39.3	1
RIM	23.6	15.6	2	34.5	19.8	2	10.6	19.4	2
Apple	13.8	9.1	3	25.1	14.4	3	8.8	16.1	3
HTC	7.5	5.0	4	8.1	4.6	4	2.6	4.8	4
Samsung Electronics	5.4	3.6	5	5.7	3.3	5	2.3	4.2	5
Other	40.6	26.8	-	33.1	19.0	-	8.9	16.3	-
Total	**115.4**	**100.0**	-	**174.2**	**100.0**	-	**54.7**	**100.0**	-

Source : IDC



3-6 Household Analog/Digital TV Penetration (%)



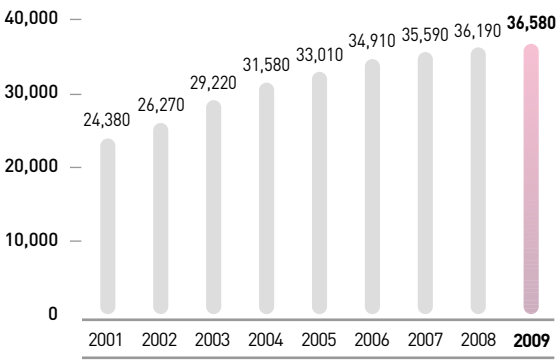
Type	UK	France	Germany	Italy	US	Canada	Japan	Poland	Spain	Netherlands	Sweden	Ireland
Analogue	87.6	72.3	36.9	62.9	76.0	61.4	64.9	45.3	74.0	53.8	63.1	60.3
Digital	12.4	27.7	63.1	37.1	24.0	38.6	35.1	54.7	26.0	46.2	36.9	39.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source : Ofcom, 'The International Communications Market 2009', December 2009.

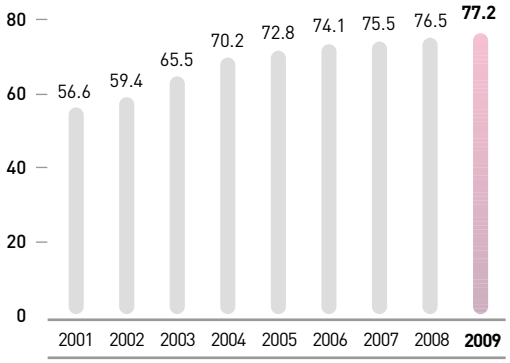
Domestic Data

1. Internet

1-1 Internet Users and Usage Rate (1,000 persons, %)



Number of Users (age 3 and above)

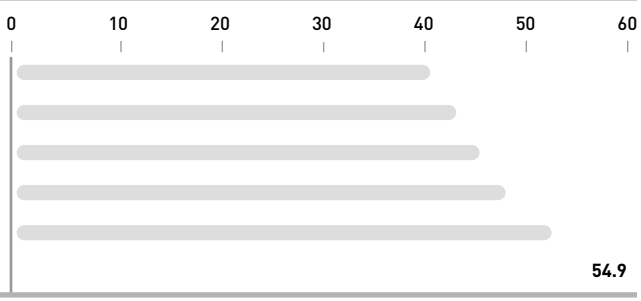


Usage Rate

Note : 1. Wireless Internet users on a mobile communication network were also included from December 2004 and the definition of 'Internet users' was changed from 'people using the Internet once a month or more on average' to 'those who have used the Internet at least once during the last one month'.
2. Survey scope has been extended to Internet users aged 3 and above since 2006 (Internet users aged 7 and above [2001~2001] and those aged 6 and above [2002~2005] were also included).
Source : Korea Communications Commission, Korea Information and Security Agency, '2009 Status Survey on Internet Usage', November 2009.

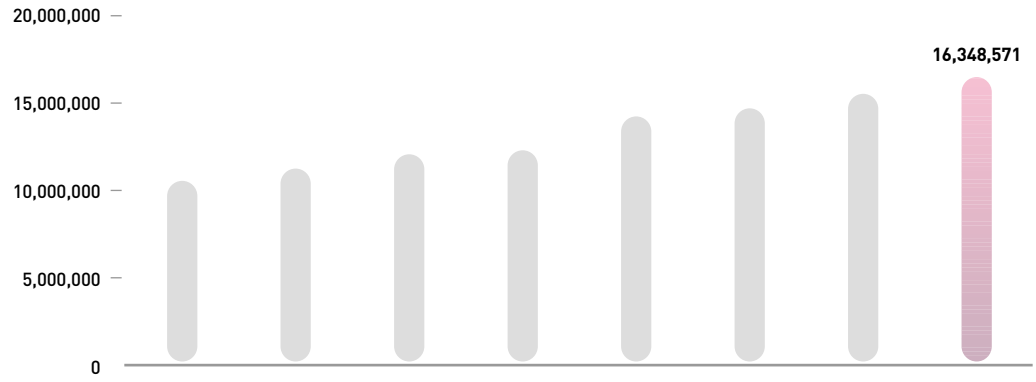
1-2 Wireless Internet Usage Rate (%)

Year	Usage Rate
2004	40.2
2005	42.8
2006	45.1
2007	47.7
2008	52.5
2009	**54.9**



Note : 1. The survey result for 2006 represents the share of 'wireless Internet users who had used the wireless Internet once or more during the last six months' from the total number of mobile phone users aged 12 and above.
2. The survey result for 2007 represents the share of 'wireless Internet users who had used the wireless Internet during the last one year' from the total number of mobile phone users aged 12~59.
3. The survey result for 2008 represents the share of 'wireless Internet users who had used at least one or more of wireless Internet services such as mobile phone wireless Internet, wireless LAN, and broadband wireless Internet (HSDPA and WiBro)' from the total population aged 12~59.
4. Reference date is September of each year.
Source : Korea Information and Security Agency, '2009 Status Survey on Wireless Internet Usage', December 2009.

1-3 Broadband Internet Service Subscribers



Provider	2002. 12	2003. 12	2004. 12	2005. 12	2006. 12	2007. 12	2008. 12	2009. 12
Dreamline	169,528	149,598	133,927	99,723	28,370	1,512	417	45
Cable TV Relay Operator	-	-	-	-	15,251	16,008	13,132	11,303
LG Dacom	146,336	201,704	206,197	213,272	111,905	67,793	28,589	11,907
Network Operator	-	-	-	-	55,408	58,061	50,475	42,041
Non-facilities based Carrier	174,012	177,047	218,456	256,666	179,621	164,430	158,473	163,295
LG Powercomm	-	-	-	261,916	1,204,293	1,721,328	2,182,362	2,509,818
Cable TV System Operator	-	-	-	-	2,262,403	2,507,210	2,786,276	2,810,732
SK Broadband	-	-	-	-	-	-	3,543,669	3,846,597
KT	4,922,395	5,589,058	6,077,694	6,241,789	6,352,542	6,515,541	6,711,538	6,952,833
Hanaro Telecom	2,872,351	2,725,563	2,748,934	2,773,213	3,612,749	3,658,115	-	-
Thrunet	1,301,620	1,293,364	1,287,916	836,625	-	-	-	-
Onse Telecom	452,109	423,062	391,289	353,001	220,156	-	-	-
Value-added Carrier	367,135	619,103	857,026	1,154,506	-	-	-	-
Total	**10,405,486**	**11,178,499**	**11,921,439**	**12,190,711**	**14,042,698**	**14,709,998**	**15,474,931**	**16,348,571**

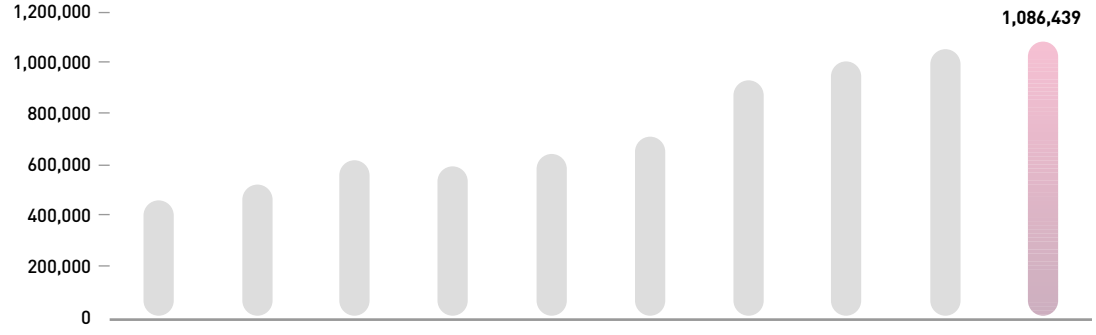
Note : Hanaro Telecom has merged into SK Broadband.
Source : Korea Communications Commission, 'Status of Broadband Internet Subscribers', December 2009.

1-4 Wireless Internet Subscribers

Provider	2005. 12		2006. 12		2007. 12		2008. 12		2009. 12	
	WAP/ME	ISMS	WAP/ME	ISMS	WAP/ME	ISMS	WAP/ME	ISMS	WAP/ME	ISMS
SKT	18,208,012	178,242	19,600,608	46,810	21,284,414	25,935	21,125,152	13,189	23,308,039	28,705
KTF	11,593,601	311,020	12,632,940	157,212	12,689,245	123,418	13,594,881	97,312	14,647,673	57,034
LGT	5,468,876	164,385	6,300,712	156,059	7,316,144	158,921	7,748,237	161,188	8,078,916	180,972
Subtotal	35,270,489	653,647	38,534,260	360,081	41,289,803	308,274	42,468,270	271,689	46,034,628	266,711
Total	**35,924,136**		**38,894,341**		**41,598,077**		**42,739,959**		**46,301,339**	

Note : 1. 'ISMS' stands for a service that enables Internet connection and search without web browsers by connecting the Internet gateway to ISMS system, and is therefore not just a simple SMS.
2. Number of subscribers = number of terminals
Source : Korea Communications Commission, 'Status of Wired/Wireless Communication Service Subscribers', January 2010.

1-5 Number of .kr Domains



Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010.6
No. of .kr domains	457,450	515,200	611,548	590,800	642,770	705,775	930,485	1,001,206	1,064,179	**1,086,439**

Source : Korea Information and Security Agency.

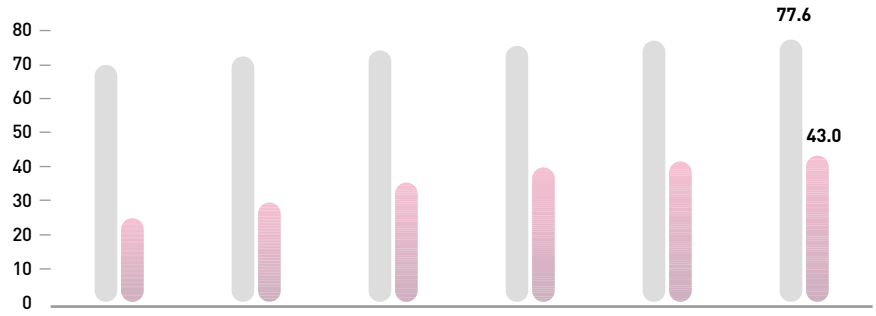
2. Digital Divide and Internet Addiction

2-1 Informatization Level of the Socially Disadvantaged (%)

Year	2004	2005	2006	2007	2008	2009
Accessibility	63.7	71.0	80.2	86.5	89.7	91.0
Capacity	27.5	35.2	42.9	44.5	45.7	48.9
Utilization	33.1	41.0	49.2	51.4	53.1	54.8
Quantitative Usage	34.2	42.2	50.3	52.8	54.4	55.7
Qualitative Usage	29.6	37.7	46.4	48.0	50.1	52.3
Comparative Level	**45.0**	**53.3**	**62.0**	**65.9**	**68.0**	**69.7**

Note : The 'Comparative Level' represents the Informatization level of the socially disadvantaged compared to the level of the general population, which is given the value of 100.
Source : Ministry of Public Administration and Security; National Information Society Agency, '2009 Status Survey on Digital Divide', February 2010.

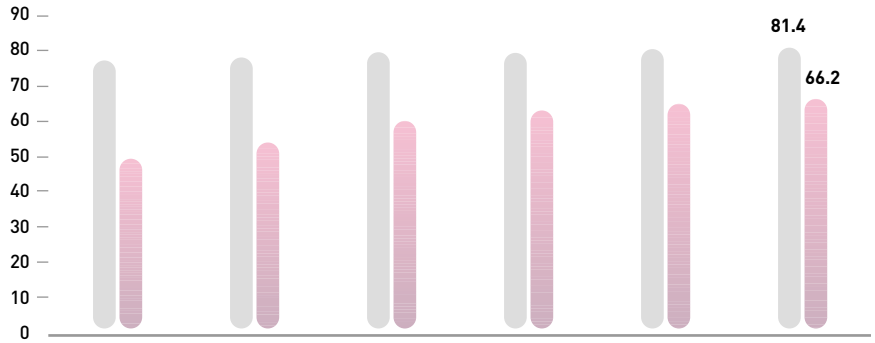
2-2 Internet Usage Rate by the Socially Disadvantaged (%, % point)



Type		2004		2005		2006		2007		2008		2009	
		Usage Rate	Divide	Usage Rate	Divide	Usage Rate	Divide	Usage Rate	Divide	Usage Rate	Divide	Usage Rate	Divide
Total Population		70.2	-	72.8	-	74.8	-	76.3	-	77.1	-	77.6	-
Socially Disadvantaged	Disabled	34.8	35.4	41.0	31.8	46.6	28.2	49.9	26.4	51.8	25.3	52.7	24.9
	Elderly	19.3	50.9	22.5	50.3	28.3	46.5	34.1	42.2	35.6	41.5	37.6	40.0
	Low-income	38.4	31.8	44.2	28.6	48.4	26.4	52.8	23.5	54.6	22.5	55.7	21.9
	Farmers and Fishermen	16.9	53.3	23.0	49.8	29.4	45.4	33.4	42.9	35.2	41.9	36.2	41.4
	Average	**24.9**	**45.3**	**29.4**	**43.4**	**35.1**	**39.7**	**40.1**	**36.2**	**41.7**	**35.4**	**43.0**	**34.6**

Note : 'Divide' represents the difference between the Internet usage rates of total population and the socially disadvantaged; 'Average' is weighted by the size of the socially disadvantaged group.
Source : Ministry of Public Administration and Security; National Information Society Agency, '2009 Status Survey on Information Divide', February 2010.

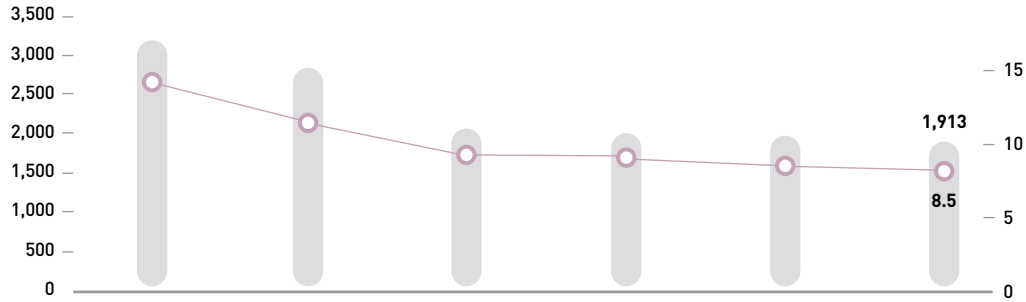
2-3 PC Penetration in the Socially Disadvantaged (%, % point)



Type		2004		2005		2006		2007		2008		2009	
		Penetration Rate	Divide	Penetration Rate	Divide	Penetration Rate	Divide	Penetration Rate	Divide	Penetration Rate	Divide	Penetration Rate	Divide
Total Population		77.8	-	78.9	-	79.6	-	80.4	-	80.9	-	81.4	-
Socially Disadvantaged	Disabled	62.3	15.5	66.2	12.7	68.7	10.9	69.9	10.5	70.7	10.2	71.2	10.2
	Low-income	49.9	27.9	53.4	25.5	57.7	21.9	61.3	19.1	63.1	17.8	64.7	16.7
	Farmers and Fishermen	35.8	42.0	43.6	35.3	50.2	29.4	55.0	25.4	57.4	23.5	58.7	22.7
	Average	**48.7**	**29.1**	**54.2**	**24.7**	**60.1**	**19.5**	**63.4**	**17.0**	**65.1**	**15.8**	**66.2**	**15.2**

Note : 'Divide' represents the difference between the computer penetration rates of the total population and the socially disadvantaged; 'Average' is weighted by the size of the socially disadvantaged group.
Source : Ministry of Public Administration and Security; National Information Society Agency, '2009 Status Survey on Information Divide', February 2010.

2-4 Internet Addiction Rate and Number of Internet Addicts (%, 1,000 persons)

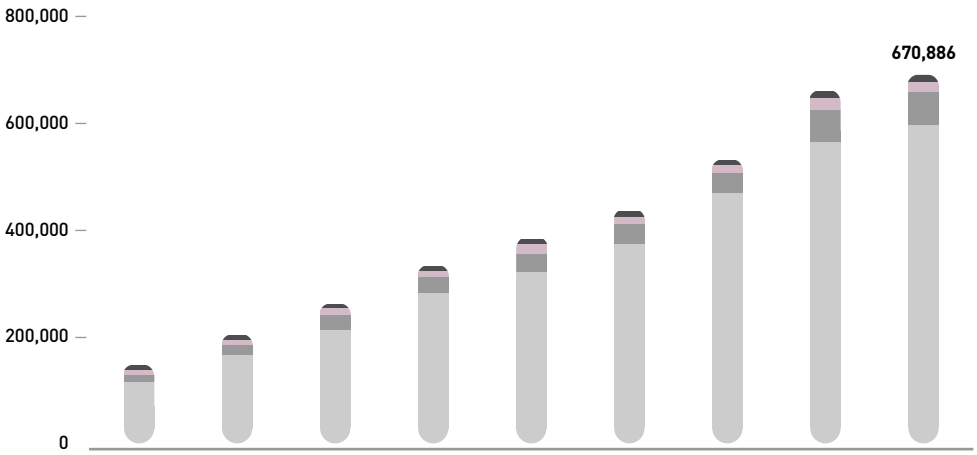


Type	2004		2005		2006		2007		2008		2009	
	Addiction Rate	Addicts	Addiction Rate	Addicts	Addiction Rate	Addicts	Addiction Rate	Addicts	Addiction Rate	Addicts	Addiction Rate	Addicts
Total Population	14.6	3,228	12.6	2,862	9.2	2,074	9.1	2,042	8.8	1,999	**8.5**	**1,913**
Youth	20.3	1,537	15.3	1,170	14.0	980	14.4	1,047	14.3	1,035	**12.8**	**938**
Adult	8.9	1,691	9.9	1,692	7.0	1,094	6.5	995	6.3	964	**6.4**	**975**

Source : Ministry of Public Administration and Security; National Information Society Agency, '2009 Status Survey on Internet Addiction', April 2010.

3. E-commerce

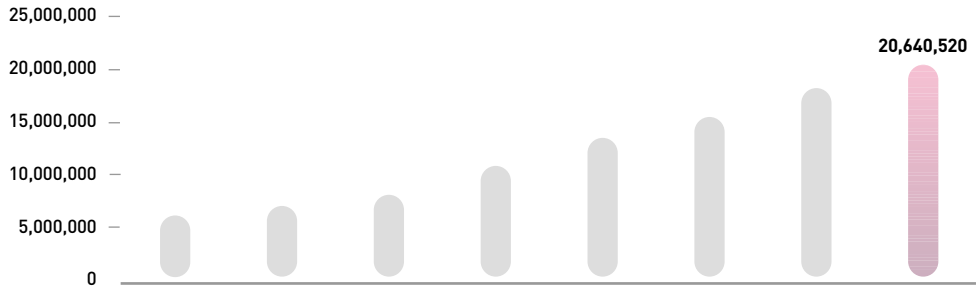
3-1 E-commerce Transaction Volume by Type (KRW 1 billion)



Type	2001	2002	2003	2004	2005	2006	2007	2008	2009(p)
Total Transaction Volume	**118,976**	**177,810**	**235,025**	**314,079**	**358,450**	**413,584**	**516,514**	**630,087**	**670,886**
B2B	108,941	155,707	206,854	279,399	319,202	366,191	464,456	560,255	591,375
B2G	7,037	16,632	21,634	27,349	29,036	34,435	36,801	52,266	59,456
B2C	2,580	5,043	6,095	6,443	7,921	9,132	10,226	11,359	12,043
Other (C2C, etc.)	418	427	442	888	2,292	3,826	5,032	6,207	8,012

Note : Data consists of rounded-off figures and may not add up to the exact total.
Source : National Statistical Office, '2009-4Q and Annual E-commerce and Cyber Shopping Trend', February 2010.

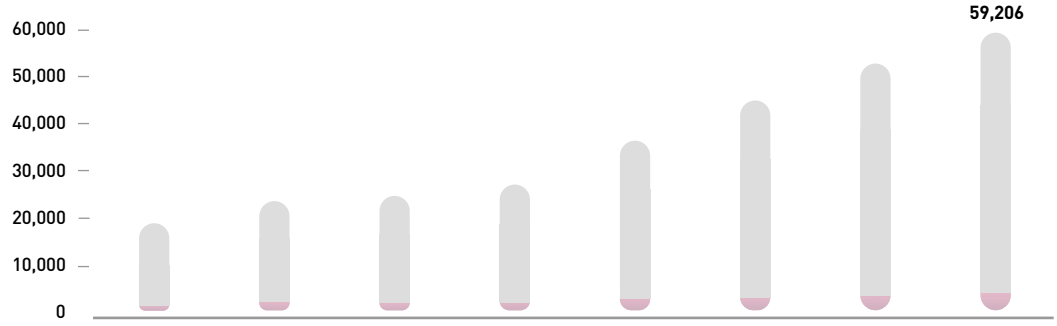
3-2 Transaction Volume of Online Shopping Malls (KRW million)



Type		2002	2003	2004	2005	2006	2007	2008	2009(p)
Total Transaction Volume		**6,029,876**	**7,054,817**	**7,768,105**	**10,675,595**	**13,459,595**	**15,765,573**	**18,145,516**	**20,640,520**
By Merchandise	General Malls	4,389,126	5,108,126	5,620,687	7,415,033	9,570,678	11,121,748	12,964,202	15,444,725
	Specialty Malls	1,640,751	1,946,692	2,147,418	3,260,563	3,888,917	4,643,824	5,181,314	5,195,795
By Operation	Online Malls	1,973,686	2,401,107	3,824,930	5,913,345	8,285,365	10,006,876	12,061,352	14,005,549
	Online and Offline Malls	4,056,191	4,653,711	3,943,175	4,762,250	5,174,229	5,758,697	6,084,164	6,634,971
By Organization	Individual Companies	131,593	139,133	143,397	216,416	270,301	-	-	-
	Corporations	5,792,979	6,788,567	7,478,700	9,736,295	12,456,223	-	-	-
	Others	105,305	127,117	146,009	722,885	733,070	-	-	-

Note : Data consists of rounded-off figures and may not add up to the exact total.
Source : National Statistical Office, '2009-4Q and Annual e-Commerce and Cyber Shopping Trend', February 2010.

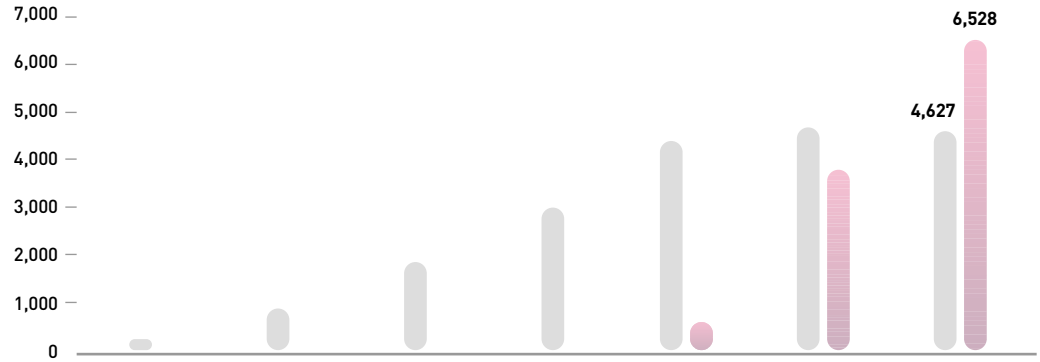
3-3 Registered Internet Banking Users (1,000 persons; 1,000 companies)



Type	2002	2003	2004	2005	2006	2007	2008	2009
Individuals	17,015	21,752	23,094	25,303	34,123	42,396	50,075	56,047
Businesses	695	1,002	1,177	1,434	1,789	2,302	2,520	3,159
Total	**17,710**	**22,754**	**24,271**	**26,737**	**35,912**	**44,698**	**52,595**	**59,206**

Note : 1. Samples include 17 domestic banks, HSBC and Post Office, and the data includes customers who have registered in more than two financial institutions.
2. The increase in the number of individual users is mainly caused by increased registrations in order to benefit from the convenience of Internet use made compulsory for new apartment subscriptions.
Source : Bank of Korea, '2009 Status of Domestic Internet Banking Usage', January 2010.

3-4 Registered Mobile Banking Users (1,000 persons)

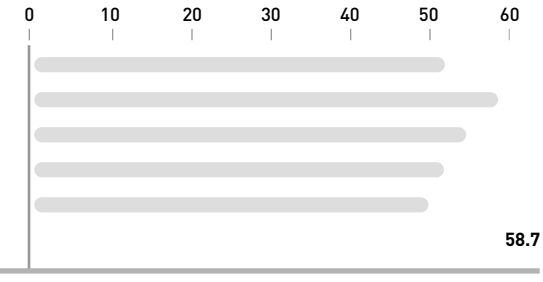


Year	2003	2004	2005	2006	2007	2008	2009
IC chip-based	189	894	1,861	2,979	4,412	4,694	**4,627**
VM-based	-	-	-	-	597	3,784	**6,528**
Total	**189**	**894**	**1,861**	**2,979**	**5,009**	**8,478**	**11,155**

Note : 1. IC (Integrated Circuit) chip-based mobile banking: BankON, M Bank, K Bank
2. VM (Virtual Machine) mobile banking downloads and installation of Internet banking programs into mobile devices in order to use the service.
3. Reference date is each year-end.
Source : Bank of Korea, '2009 Status of Domestic Internet Banking Usage', January 2010.

3-5 Online Stock Trading Volume (KRW 1 trillion, %)

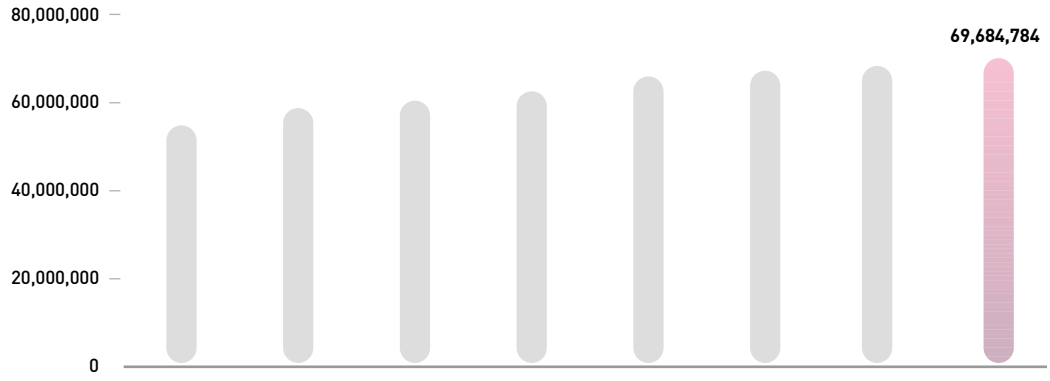
Year	Total Stock Trading (A)	Online Stock Trading (B)	Online Share (B/A)
2004	1,423.0	736.6	51.8
2005	2,465.3	1,442.2	58.5
2006	2,552.0	1,388.3	54.4
2007	3,727.3	1,926.3	51.7
2008	3,192.3	1,586.5	49.7
2009	**3,994.5**	**2,344.9**	**58.7**



Note : Total Stock Trading (A) and Online Stock Trading (B) consist of the total amount of buying and selling.
Source : Korea Exchange, '2009 Stock Statistics Report', February 2010.

4. Telecommunication & Broadcasting Service

4-1 Wired and Wireless Service Subscribers



Type	2003.12	2004.12	2005.12	2006.12	2007.12	2008.12	2009.12	20010.6
Local Phone	22,877,019	22,870,615	22,920,151	23,119,170	23,130,253	22,131,737	20,089,979	**19,621,769**
Mobile Phone	33,591,758	36,586,052	38,342,323	40,197,115	43,497,541	45,606,984	47,944,222	**49,608,721**
Wireless Paging	73,160	45,634	42,003	42,690	39,328	41,082	21,066	**20,346**
TRS	279,896	311,457	322,830	321,125	332,747	353,267	352,092	**367,209**
Wireless Data Communication	104,608	111,051	111,433	97,272	100,354	90,984	62,334	**62,507**
GM-PCS	-	-	-	-	4,412	3,897	3,857	**4,232**
Total	**56,926,441**	**59,924,809**	**61,738,740**	**63,777,372**	**67,104,635**	**68,227,951**	**68,473,550**	**69,684,784**

Source : Korea Communications Commission, 'Status of Wired/Wireless Communication Service Subscribers', January 2010.

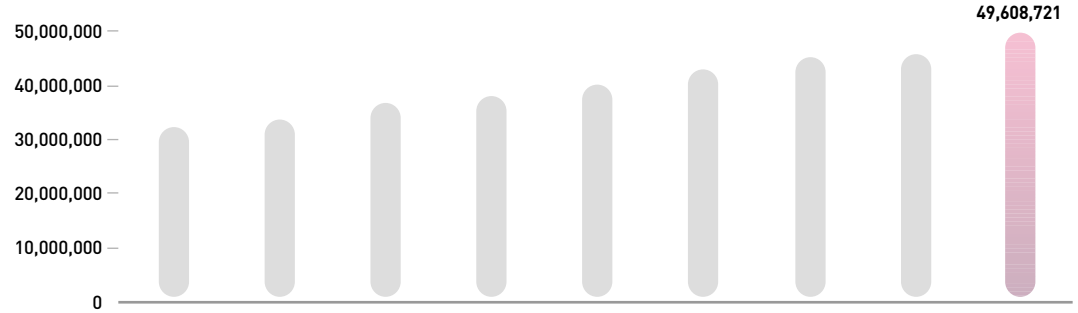
4-2 Wired Phone (Local Phone) Subscribers (KRW 1 trillion, %)

Provider	2002.12	2003.12	2004.12	2005.12	2006.12	2007.12	2008.12	2009.12	2010.6
KT	22,550,278	21,875,638	21,457,342	21,353,086	21,288,733	20,918,566	19,866,278	18,052,168	**17,254,741**
SK Broadband	939,852	1,001,381	1,413,273	1,521,117	1,745,266	2,030,862	1,934,981	1,690,068	**2,008,160**
LG U+	-	-	-	45,948	85,171	180,825	330,478	347,743	**358,868**
Total	**23,490,130**	**22,877,019**	**22,870,615**	**22,920,151**	**23,119,170**	**23,130,253**	**22,131,737**	**20,089,979**	**19,621,769**

Note : 1. Figures for KT consist of the total number of people subscribing to household phones (business phones excluded), group phones, DID, and ISDN.
2. Figures for SK Broadband consist of the total number of people subscribing to household phones (business phones excluded), in-house communication, and ISDN.
3. Figures for LGT consist of the total number of people subscribing to general fixed lines (wired lines no. 1 and 2) and trunks (DID/DOD trunks and DOD channels).
4. Subscribers to DID trunks are excluded.
5. Hanaro Telecom has merged into SK Broadband; corporate name Dacom was changed to LG U+.

Source : Korea Communications Commission, 'Status of Wired/Wireless Communication Service Subscribers', January 2010.

4-3 Mobile Phone Subscribers



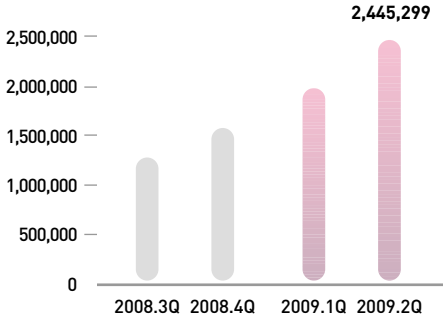
Provider	2002.12	2003.12	2004.12	2005.12	2006.12	2007.12	2008.12	2009.12	2010.6
SKT	17,219,562	18,313,135	18,783,338	19,530,117	20,271,133	21,968,169	23,032,045	24,269,553	**25,146,337**
Shinsegi Telecom									
KT	10,332,770	10,441,766	11,728,932	12,302,357	12,913,699	13,720,734	14,365,233	15,016,195	**15,597,035**
LG U+	4,790,161	4,836,857	6,073,782	6,509,849	7,012,283	7,808,638	8,209,706	8,658,474	**8,868,349**
Total	**32,342,493**	**33,591,758**	**36,586,052**	**38,342,323**	**40,197,115**	**43,497,541**	**45,606,984**	**47,944,222**	**49,608,721**

Source : Korea Communications Commission, 'Status of Wired/Wireless Communication Service Subscribers', January 2010.

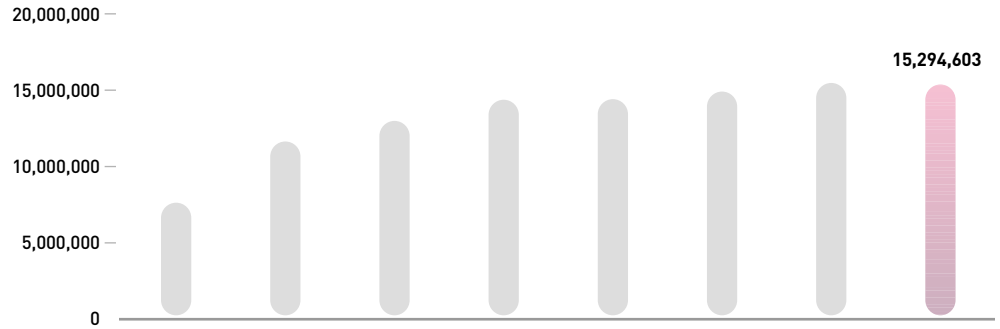
4-4 VoIP Subscribers

Provider	2008		2009	
	3Q	4Q	1Q	2Q
KT	261,000	328,000	505,000	795,000
SK Broadband	32,000	121,000	351,000	577,000
LG Dacom	1,008,441	1,202,563	1,406,741	1,650,299
Total	**1,269,441**	**1,530,563**	**1,911,741**	**2,445,299**

Source : Korea Communications Commission.



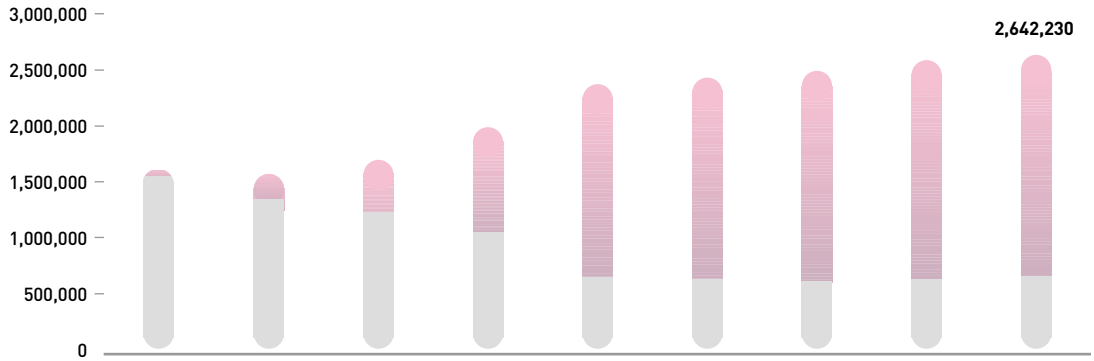
4-5 Digital Cable TV Subscribers



Type	Year-end Basis	2002	2003	2004	2005	2006	2007	2008	2009
Sub-scribers (No. of terminals)	Analogue Broadcasting	7,454,822	11,404,632	12,906,779	14,129,314	13,881,782	13,908,616	13,282,667	**12,624,541**
	Digital Broadcasting	-	-	-	-	287,159	855,571	1,914,118	**2,670,062**
	Total	**7,454,822**	**11,404,632**	**12,906,779**	**14,129,314**	**14,168,941**	**14,764,187**	**15,196,785**	**15,294,603**

Note : Number of subscribers equals the total number of TV terminals.
Source : Korean Cable TV Association, December 2009.

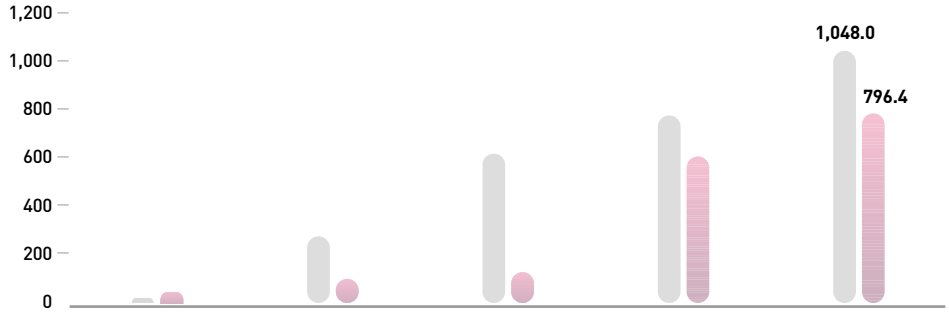
4-6 IPTV Subscribers



Time	2008.4Q	2009.1Q	2009.2Q	2009.3Q	2009.4Q	2010.1.	2010.2.	2010.3.	2010.4.
Real-time IPTV	45,782	222,620	468,673	936,516	1,741,455	1,803,721	1,887,146	1,963,784	1,996,067
Pre-IPTV	1,547,006	1,338,810	1,219,160	1,051,796	632,456	618,042	612,405	614,338	646,163
Total	**1,592,788**	**1,561,430**	**1,687,833**	**1,988,312**	**2,373,911**	**2,421,763**	**2,499,551**	**2,578,122**	**2,642,230**

Source : Korea Communications Commission.

4-7 T-DMB Terminal Sales and S-DMB Subscribers (10,000 terminals, 10,000 persons)

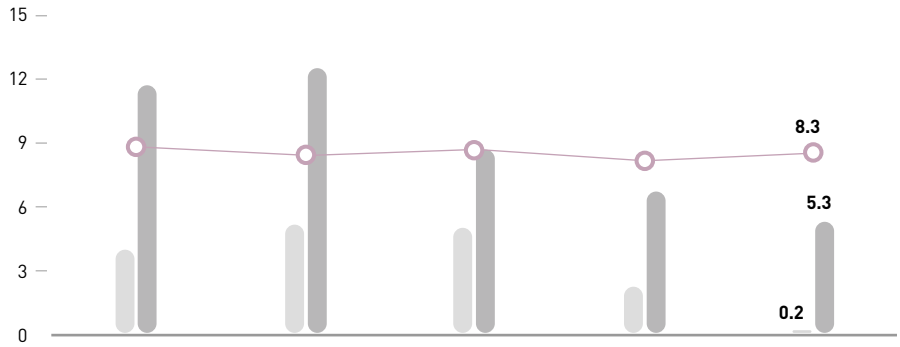


Year	2005	2006	2007	2008	2009
Terrestrial DMB	12.0	273.9	626.2	779.1	**1,048.0**
Satellite DMB	36.9	101.8	127.3	609.7	**796.4**

Note : 1. T-DMB and S-DMB services were launched in December 2005 and May 2005, respectively.
2. Figures for T-DMB represent the number of terminals sold each year; while the figures for S-DMB represent the number of subscribers.
Source : Korea Radio Promotion Association, 'Status of DMB Terminal Sales', 2010.

5. ICT Industry

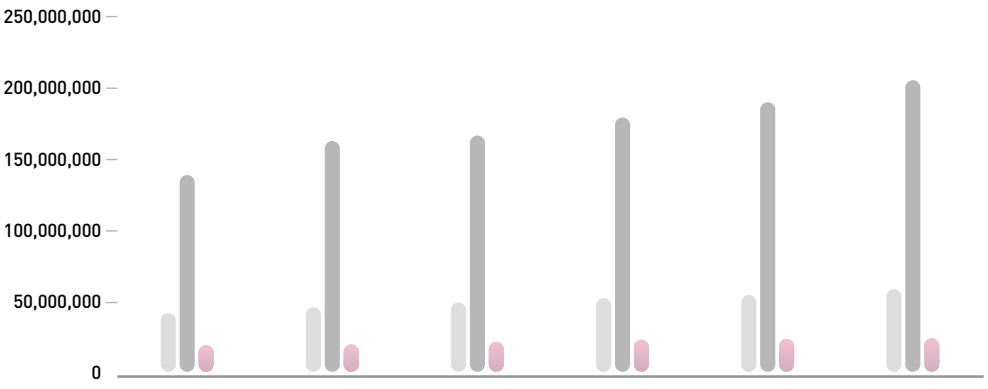
5-1 ICT Industry Share of GDP and its Contribution to Growth (%)



Year	2005	2006	2007	2008	2009(p)
GDP Growth Rate	4.0	5.2	5.1	2.3	**0.2**
ICT Industry Growth Rate	11.7	12.6	8.7	6.8	**5.3**
ICT Industry Share of GDP	8.6	9.2	9.5	8.0	**8.3**

Note : 1. ICT industry includes the manufacturing of ICT apparatuses (office appliances, semiconductors and other ICT appliances) and ICT services (communication, broadcasting, software, and computer-related services).
2. Reference year is 2005.
Source : Bank of Korea '2009 National Accounts (provisional)', March 2010.

5-2 ICT Industry Production (KRW 1 million)

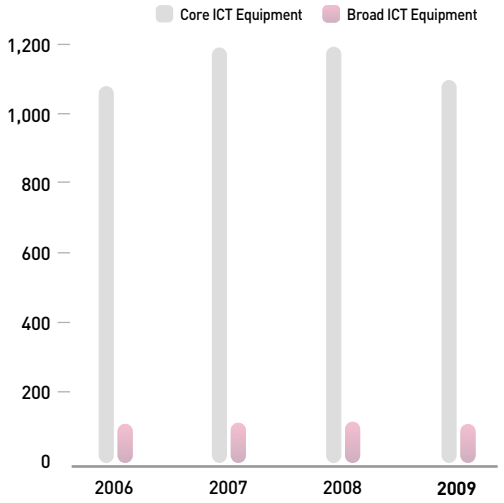


Year	2003	2004	2005	2006	2007	2008(p)
ICT Service	41,604,537	45,994,129	49,083,058	51,865,454	55,158,906	58,158,396
ICT Equipment	137,546,541	162,851,477	166,477,248	179,373,704	189,456,358	205,646,431
SW & Computer-related Services	18,439,580	18,658,818	20,082,720	21,968,008	23,056,803	24,379,501
Total	**197,590,658**	**227,504,424**	**235,643,026**	**253,207,166**	**267,672,067**	**288,184,328**

Source : Korea Association of Information and Telecommunication, 'www.istat.go.kr', April 2009.

5-3 ICT Equipment Exports (USD 100 million)

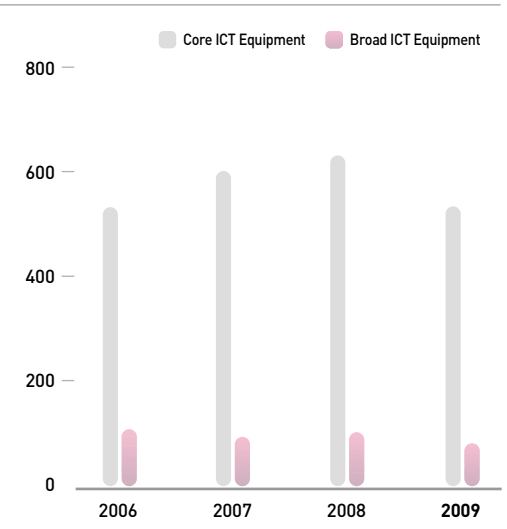
Year		2006	2007	2008	2009
Core ICT Equipment	Electronic Components	578	655	637	627
	PCs and Peripherals	119	129	98	70
	Communication and Broadcasting Equipment	271	307	360	310
	Image and Sound Equipment	103	94	90	80
	Magnetic Optical Equipment	9	10	10	11
	Subtotal	1,079	1,194	1,195	1,098
Broad ICT Equipment	Medical Precision and Optical Instruments	19	23	27	26
	Domestic Appliances	44	43	40	37
	Office Appliances and Machinery	4	5	5	4
	Electronic Machinery	46	35	44	45
	Subtotal	112	107	116	111
Total		1,191	1,301	1,312	1,209



Note : Data was adapted to these ICT categories by the Korea Association of Information and Telecommunication, which garnered the statistics from the Korea Customs and Trade Development Institute.
Source : Ministry of Knowledge Economy, '2010-02 Status of ICT Export/Import', March 2010.

5-4 ICT Equipment Imports (USD 100 million)

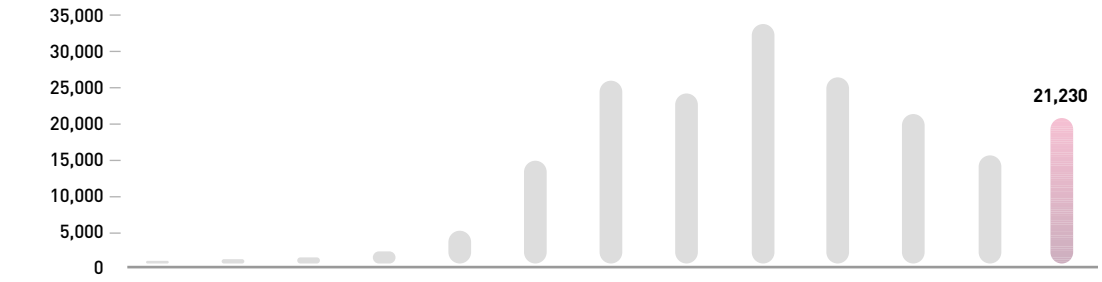
Year		2006	2007	2008	2009
Core ICT Equipment	Electronic Components	367	415	435	373
	PCs and Peripherals	80	86	85	72
	Communication and Broadcasting Equipment	51	56	66	55
	Image and Sound Equipment	27	29	32	26
	Magnetic Optical Equipment	12	14	14	10
	Subtotal	536	601	632	536
Broad ICT Equipment	Medical Precision and Optical Instruments	56	64	69	54
	Domestic Appliances	8	9	9	8
	Office Appliances and Machinery	4	3	2	2
	Electronic Machinery	43	21	23	21
	Subtotal	111	96	103	84
Total		647	697	735	620



Note : Data was adapted to these ICT categories by the Korea Association of Information and Telecommunication, which garnered the statistics from the Korea Customs and Trade Development Institute.
Source : Ministry of Knowledge Economy, '2010-02 Status of ICT Export/Import', March 2010.

6. Adverse Function

6-1 Hacking



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
No. of Cases Reported	64	158	572	1,943	5,333	15,192	26,179	24,297	33,633	26,808	21,732	15,940	**21,230**
Rate of Increase (%)	-44	147	262	240	174	185	72	-7	38	-20	-19	-27	**33**

Note : The number of forged websites in 2006 significantly decreased from the previous year. However, the risks are increasing due to the illicit use of websites as a route for hiding malicious codes and/or phishing.
Source : Korea Information Security Agency, 'Monthly Internet Incidents and Analysis', February 2010.

6-2 Worm/Virus Attacks

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
No. of Damag Cases Reported	65,033	38,677	85,023	107,994	16,093	7,789	5,996	8,469	**10,395**

Note : 1. Data on worm/virus attacks are the aggregated figure of statistics from KISA, AhnLab, and Hauri.
2. The decrease in number of damage cases reported in 2007 was caused by the significant decrease in damage cases reported from email viruses such as Netsky and Bagle. However, the spread of damages are prevalent from malicious codes and trojans, which are not self-spreadable.
Source : Korea Information Security Agency, 'Monthly Internet Incidents and Analysis', February 2010.

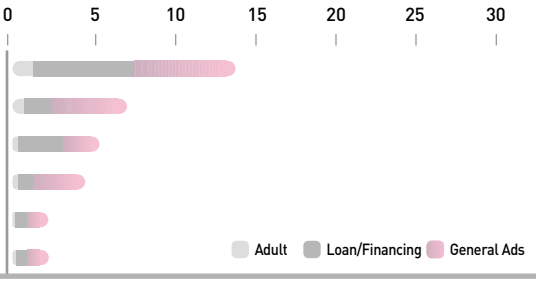
6-3 Personal Information Infringement

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
No. of Cases Reported	2,035	11,164	17,956	17,777	17,569	18,206	23,333	25,965	39,811	**35,167**

Source : Korea Information Security Agency.

6-4 Illegal Spam, Daily Average/Person

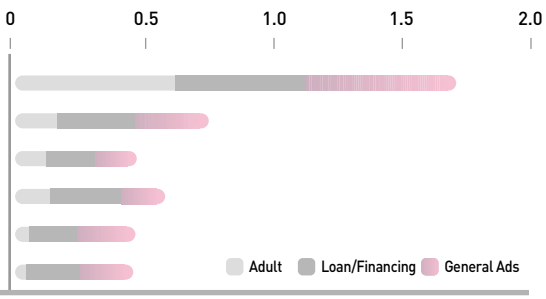
Year	Adult	Loan/Financing	General Ads	Total
2004	1.2	6.3	6.3	13.8
2005	0.6	1.8	4.5	6.9
2006	0.2	3.1	2.0	5.3
2007	0.3	1.0	3.0	4.3
2008	0.1	0.8	1.2	2.1
2009	**0.2**	**0.7**	**1.3**	**2.2**



Note : Reference data is the second half of each year
Source : Korea Information Security Agency, February 2010.

6-5 Mobile Spam, Daily Average/Person

Year	Adult	Loan/Financing	General Ads	Total
2004	0.61	0.51	0.58	1.70
2005	0.15	0.30	0.29	0.74
2006	0.11	0.19	0.17	0.47
2007	0.13	0.27	0.17	0.57
2008	0.04	0.19	0.23	0.46
2009	**0.02**	**0.22**	**0.20**	**0.44**



Note : Reference data is the second half of each year
Source : Korea Information Security Agency, February 2010.

NIA

NATIONAL INFORMATION SOCIETY AGENCY

www.nia.or.kr

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