I. Background

1. Evaluation and Accomplishment of Informatization Promotion

◆ Reason for Promotion

■ The Korean government enacted the Framework Act on Informatization Promotion in August, 1995, established the first Master Plan for Informatiztion Promotion in June, 1996 and established a national organization for planning and implementation of the goals outlined in the Master Plan. The plan presented 10 projects key to realizing an advanced information society by the year 2010.

■ In March of 1999, the government established Cyber Korea 21 as the blueprint for the new information society of the 21st century in order to overcome the Asian Economic crises and to transform the Korean economy into a knowledge-based one.

■ Since the government accomplished early the initial goal of Cyber Korea 21, they established e-Korea Vision 2006 in April, 2002 with a plan to constantly upgrade the information infrastructure and to strengthen the informatization capacity of government, institutions and individuals, all in order to present a vision for Korea to emerge as the global leader in this area.

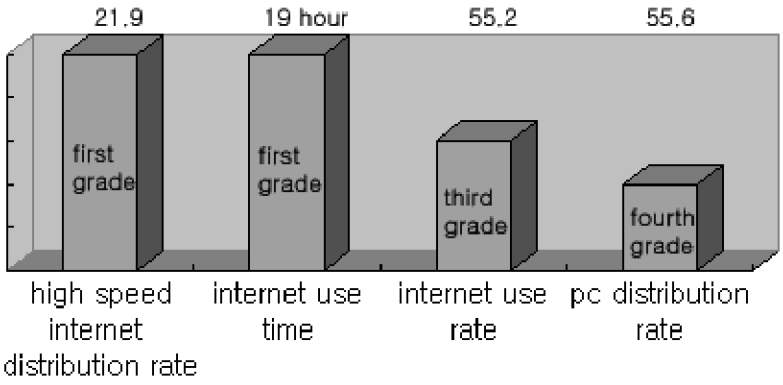
◆ Evaluation of Accomplishments

Construction of world's best information and communication infrastructure

▶ Completion of construction on a high speed information and communications network(155M~5Gbps) that connects 144 main cities nationwide in 2000 and construction of the world's best information infrastructure

▶ Construction of the world's best high-speed, user friendly internet with 26,270,000 internet users and 10,400,000 high speed internet users as of the end of 2001.

source : ITU



Building of foundation for E-Government and Promotion of public informatization

▶ Constant promotion for deepening the informatization of the government's administrative processes based on the facts that informatization can increase administrative efficiency and also establish a solid foundation for e-Government. (400 different civil applications can be serviced on-line; the size of 20 different civil application documents has been reduced through joint, practical use of public database; procurement services by public organizations can be processed on-line)

▶ The computerization of the document handling process has been promoted for the purpose of providing efficient administrative service. This has increased the electronic payment rate from 20% in 1998 to 90% in 2002, and the procurement process of electronic documents has also been enlarged to all the central administrative organizations. (This has reduced the document processing time from 2days to 30 minutes)

· Informatization of procurement services: Introduction of on-line administrative services has enhanced the productivity and transparency of government procurement services (Between January-July 2003, the electronic bidding notification rate was 100% and the electronic bidding rate was 91.6%)

· Comprehensive national tax service: By electronically processing the declaration, notification and payment of a national tax, the efficiency and transparency of administering a national tax can be enhanced (as of early 2003, the electronic declaration rate of withholding taxes and value added taxes was 60% and 38.5% respectively)

Spread of Electronic Commerce and Promotion of informatization in non-governmental fields

▶ The size of e-commerce transactions has increased from 500 million won in 1998 to 177 trillion won in 2002, capturing 12% of total trade transactions.

▶ The process of transforming 30 thousand small and medium enterprises into IT related

companies as well as small enterprise networking projects has aided the process of bettering and/or strengthening small and medium enterprises with inferior informatization levels.

IT industry as a growth stimulus to the Korean economy

▶ The IT industry's relative importance to GDP has increased from 8.6% in 1997 to 14.9% in 2002, and the IT sector has also contributed 40% of the total increases in GDP in the past 5 years.

▶ The share of IT products as a share of overall exports has increased from 23% in 1997 to 28.6% in 2002. Among the leading products are the world's best semiconductors, mobile communication, and TFT-LCD.

Field	1997	⇒	2002
Yield from IT industry	75.5 trillion won		189 trillion won
Share of GDP	8.6%		14.9%
The amount of IT exports (Share of total exports)	313 billion dollar (23.0%)		463 billion dollar (28.6%)
IT trade surplus	94 billion dollar		156 billion dollar

Securing competitive power related to IT technology such as wire/wireless communication technologies and S/W technologies

▶ Provide IT technology at the right and appropriate time in order to achieve the faster promotion of informatization and the prosperity of the IT industry. This should inevitably lead to the construction of the world's finest information infrastructure.

▶ IT's core technologies such as TDX, DRAM, and CDMA have successfully been developed and commercialized, and it obtained excellent outcome technologically and also economically. As a result, the foundation for the development of new IT technologies such as DTV, Post-PC, IT SoC and new generation of mobile communication have been provided.

<Comparison of information Society Indices>

Category	Pre 1st plan	2nd Plan	3rd plan	Adjusted 3rd plan
	End of 1995	End of 1998	End of 2001	September 2003
Proportion of e-approvals in the Government(%)	-	21.2	80.6	97('03,6)
Proportion of e-procurement of the Government(%)	-	19.3	87.5	91.6('02.12)

Proportion of e-trade(%)	-	3.7	66.6	62[2]
Internet Banking users(million)	-	-	1,131	2,127
Amount of exports of IT products(billion USD)	317	305[1]	384	463('02.12)
IT industry production(trillion won)	51.4	88.1	150.3	189('02.12)
Number of households with access to high-speed internet(millions)	-	1.4	781	1,131
Number of Internet users(millions)	37	310	2,438	2,861('03.6)
Number of personal computers(millions)	535	827	2,070	2,645('02.12)
Number of mobile phone subscribers(millions)	164	2,682	2,904	3,321
Size of e-commerce market(trillion won)	-	0.05	119	177('02.12)
Number of e-signature users(millions)	-	-	192	845

1) The increase in the foreign exchange rate in 1998 reduced the export amount

2) The average of relative importance up to September 2003

♦ Key success factors

Establishment of a comprehensive informatization promotion framework and system

▶ The Framework Act on Informatization Promotion was enacted in 1995

▶ Informatization Planning Office and Informatization Promotion Fund were established in 1996

▶ Informatization Promotion Committee was established in 1996 and IT strategy Meeting was organized in 1998

Establishment of a vision for the information society in response to changes in the environment

▶ The government presented the visions and strategies for the information society, the 1st Master Plan for Informatization Promotion and CYBER KOREA 21, grounded on the direction by the head of the nation. In order to implement these action plans, the Korean government has formed a close partnership with the private sector.

Upgraded information infrastructure

▶ The government has implemented continuous upgrading of existing information networks. More specifically, the nationwide PSTN constructed in 1980's and the information systems built as a part of National Computerization Project were upgraded and integrated into the information infrastructure.

Strategic investments in key sectors and promotion of market competition

▶ The government made initial and intensive investments in CDMA technology and promoted market competition in broadband and mobile telecommunication services (ADSL) in order to stimulate private sector investments.

Cultural compatibility with information technology

▶ The rapid rise of the Internet population is partly a result of the compatibility between the Korean culture and the Internet. In addition, cultural compatibility is also attributable to the success of the e-literacy training programs as well as to the partnership between the government and the private sector.

◆ Some shortcomings and tasks to be resolved

■ The effects of informatization such as increasing productivity levels and transparency have fallen short of expectations. This is attributable to the incomplete overhaul of social systems, outdated practices and incomplete implementation of business process re-engineering (BPR).

■ The development of new growth force is required for the preparation to face global information environment of 21st century.

Slow spread of informatization in the public sector

▶ Informatization in the public sector has not been fully realized as a result of the lack of information sharing and system networking between governmental departments, organizations and agencies. In addition, government officials have been slow to open information regarding the administration to the general public.

▶ The effectiveness and efficiency of investments on public informatization is lowered because of the absence of systematic outcome management on the public informatization investment.

Insufficiency in the productivity of information application

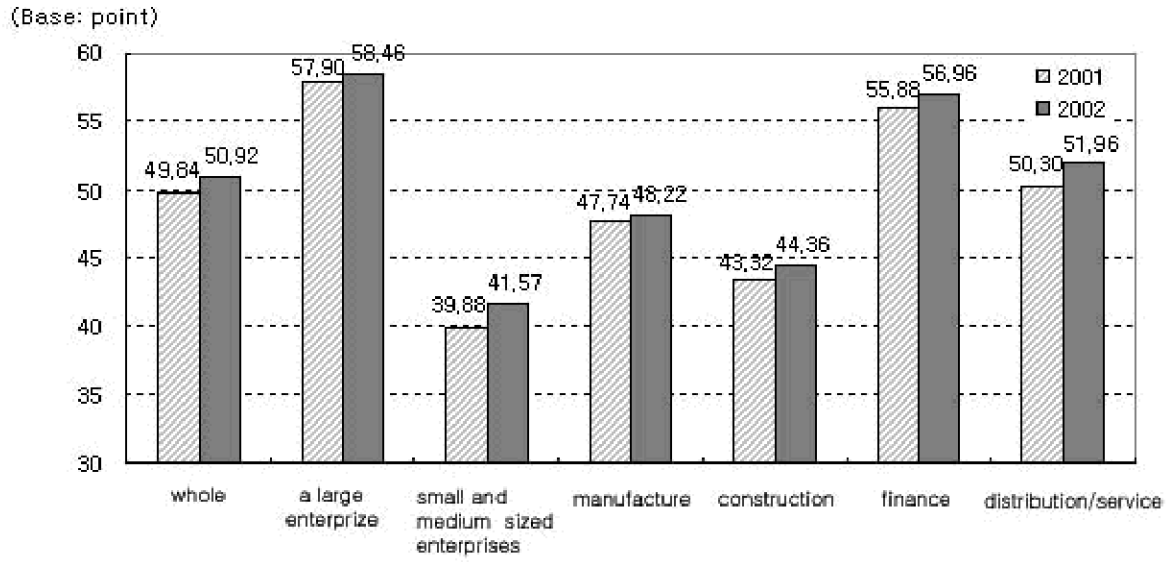
▶ Even though, there are vast improvements in the surrounding environment for information usage, the purpose of main usages for internet are weighted towards the consumption sector such as leisure activities, games and online chatting. This is attributable to the absence of efforts by individuals and institutions to improve their competitive power in the respective fields.

Inactiveness in spreading informatization for institutions

▶ The level of informatization for SMEs (small and medium enterprises,) who occupy a majority chunk of all enterprises, is still low.

▶ Foundations or infrastructures such as standard, resources, systems and laws to support e-business are relatively weak and also obscure accounting and trade practices,

and are, hence, major impediments to the full realization of informatization.



Deepening of information gap

▶ Even though there has been a vast improvement in the level of informatization, the information gap between different generations and people with different level of incomes is still wide.

Category		1999.10		2000.12		2001.12		2002.12	
Categorized by Age	Age 6~19	33.6%	30.7%p	74.1%	68.4%p	93.3%	80.3%p	91.4%	82.1%p
	Age 20	41.9%		74.6%		84.6%		89.8%	
	Age 30	18.5%		43.6%		61.6%		69.4%	
	Age 40	12.8%		22.7%		35.6%		39.3%	
	Age over 50	2.9%		5.7%		8.7%		9.3%	
Categorized by income	Bellow 150 million won	16.4%	13.2%p	35.2%	20.8%p	36.8%	33.6%p	38.5%	32.7%p
	Between 150~250 million won	24.5%		49.8%		61.0%		63.6%	
	Over 250 million	29.6%		56.0%		70.4%		71.2%	

(Based on Internet usage rate)

Weak given condition to confront malfunctions of informatization

▶ As a result of fast progressing informatization, deepening of dependence on the Information & Communication infrastructure occur in the area of main national institutions and throughout economic and social activities. This is attributing to the increases in information & communication network breakdown.

	1999	2000	2001	2002
US	9,859	21,756	52,658	82,094
UK	1,712	4,753	40,274	112,346
Korea	572	1,943	5,333	15,192

▶ Korean citizens are harmed and inconvenienced from 'invasion of private information' and 'spam mail'. Increases in cyber defamation such as circulation of unwholesome information and indirect abuse via Internet occur throughout the society.

※ Current situation of Cyber terror and IT malfunctions

- Number of reported hackings : In 2000 1,943, In 2001 5,333, In 2002 15,192(185% ↑)
- Number of reported "Invasions of private information" : In 2000 2,035, In 2001 11,164, In 2002 17,956(60.8% ↑)
- Number of average spam mails received daily: Received daily : In 2001 4.66, In 2002 34.89(649% ↑)
- Number of unwholesome information received : In 1998 17,108, In 2001 25,210, In 2002 32.221(27.8% ↑)

Increases in demand on multimedia services requiring high speed and large capacity

▶ Increases in general demand by the institutions and individual as well as changes in the political environment such as the fusion of broadcasting & communication and improvement in network technology, all lead to the necessity in constructing an integrated broadband network with high speed and large capacity.

Development of a new growth force using information infrastructure is urgently required

▶ The export leading IT sector still depends too much upon 3 categories including, semiconductors, mobile communications equipment and computer monitors. In addition, the Chinese IT industry is growing so fast that they will outpace our growth rate in 3-5 years. As a result, these issues create an urgent need for the development of a new growth force in the IT sector.

▶ From the structural side of view, the manufacturing sector occupies more than 65% of IT industry production and more than 99% of IT exports. This emphasizes relatively weak performance by service related sectors such as S/W and digital contents.

▶ Overlapping between departments and also between sectors within the process of IT technology development still exists. There are also gaps in technological foundation, source of technology and IT accessories in the IT sector.

▶ Quantitative IT labor supply system is formed and matured to the certain level, however skill mismatch between institution's demand and labor supplier leads to the insufficient supply of essential labors.

2. New challenges emerging from the changing environment

■ As global competition becomes intensified in the world economy, Korea must actively respond to the changing environment with efforts to restructure the national economy.

■ The survival of numerous domestic companies will be dependent on the ability to compete at a global level.

◆ Globalization and restructuring the world economy

With the rapid spread of globalization throughout the world economy, a possible threat to the entry of Korea into the world economy is the emergence of new economic superpowers such as China and the EU

▶ Intensified competition for survival in the world market due to the long-term depression of US and Japanese economy and also the emergence of Chinese power in the world economy.

▶ The importance of the IT industry as a platform for the development of existing main industry and also for the development of a new growth force has been magnified to the world economy.

▶ In order to achieve constant growth of Korean economy, the construction of integrated broadband network for the process of unifying information, communication and broadcasting into one hybrid is required. And with foundation of this process, positive development and fostering of new growth force is urgently needed.

◆ Changes of employment methods and job structure

The widespread usage of information technologies throughout society has led to changes in the labor market

▶ IT professionals and experts have emerged representing the new Knowledge worker. In addition, new jobs have been created pertaining to cyberspace, such as computer mappers.

* A computer mapper is a type of software developer who programs geographical or

location information for automatic navigation systems.
* According to the Korea Information Society Development Institute (KISDI), the annual growth rate of IT workers between 2000 and 2005 is expected to be 4.8% while the average annual growth rate for overall national employment is expected to be 1.96%.

▶ The increase in outsourcing and the creation of new type of jobs have led to a rapid increase in the number of part-time workers. Also, labor mobility is on the rise as changes are occurring in the concept of lifetime employment in Korean companies.

▶ In response to the changes in the labor market, the government should establish an education system appropriate for the demands of the information society, and also promote lifelong learning to improve e-literacy of all citizens.

◆ Growing demand for culture

As more people want to enjoy their personal lives, demand for cultural activities rises with higher levels of income and greater time for leisure

▶ The increase in leisure time is attributable to the rising trend of five-day work week. As a result, the quality of life will depend more on the enjoyment and experience of cultural activities.

▶ A new cultural space has emerged in cyberspace from the widespread usage of the Internet thereby enhancing the quality of life through the distribution of high quality cultural contents.

◆ Greater importance is placed on the competitiveness of the public sector

In the information society, innovation in the public sector is a prerequisite to the enhancement of competitiveness and creativity of the private sector and economic development

▶ The US, UK and other major countries are carrying out e-government projects along with deregulation measures to create a more competitive government system.

▶ For Korea, the government is also carrying out 11 key projects towards the realization of the e-government. Additional projects for the e-government will be developed for implementation through inter-ministerial cooperation.
* The government is expected to carry out 11 key projects during 2001.1 ~ 2002.11, and in august 2003, A road map for the realization of e-government will be announced with an expectation for completion by 2007.

▶ The enhanced efficiency, convenience and transparency of civil services as a result of the utilization of information and communication technologies will be important in helping the private sector strengthen its competitiveness in the global economy.

◆ Increase in adverse effect causes social problems with the development of information technology

Deepening concerns over the adverse effect due to the rapid development of information technology

▶ In order to cope with adverse effects of informatization such as hacking, distributing computer viruses and circulation of indecent information, strengthened necessary measures by government and international cooperation are needed.

* Security system defects in IT infrastructure revealed by a big Internet shutdown on January 25, 2003 prompted the necessity of strengthening information security as a whole to prevent similar accidents.

▶ With the prevalence of electronic payment and the development of DB technology, the need for protecting private information and location information, etc is increased.

◆ Increase in the importance of international cooperation

To keep up with the increasing awareness of IT as a development facilitator and to protect against blocking global economy, increase in the importance of building international cooperation

▶ Due to the rapid economic integration and regionalization, every economic activity runs into an unlimited competition in the field of industry, technology, trade, investment, etc.

▶ To catch up with the trend of formation of economy bloc in world economy , IT cooperation structure in the North East Asia should be constructed on the basis of world's best information infrastructure and various information experience.

▶ An IT hub Korea in North East Asia should be made for Korea to become the major player of business activities in the area.

◆ Rapid changes in information environment including IT convergence

Information environment is changed into where IT networks, services, and devices are converged such as network integration and converged devices

▶ Technology advancement such as broadband telecommunication network, digitization

of broadcasting led to new types of services such as integration of wire and wireless devices, voice and data, telecommunications and broadcasting.

▶ To lead advanced position in the information age, active responsiveness in newly recognized information environment driven by ubiquitous environment is needed.

◆ With the advent of participatory government, the government should show a new national informatization vision

▶ With the launch of 'participatory government' in February 2003, the government showed its vision, 'full scales of knowledge and information society,' as a generator of change.

▶ Unstable factors in overall economic activities exist such as reduction in employment due to the economic recession as well as economic hardship among middle to low wage earners

▶ To reconsider competitiveness in Korea and to build the milestone of 'national income of 20,000 dollars,' a national development strategy should focus on informatization.

[Reference]

Global trend

> U.S.

▪ The United States has been leading the new economy through intensive investment in information technology since late 1990 and showed the vision of national business through informatization after the launch of Bush administration.

* A Blueprint for New Beginnings (2001.2)

▪ Governmental strategy was established for intensive investment in the IT industry to foster economic activities and laws to realize electronic government.

* Internet usability 71%, IT export volume world wide 23.4% (2002)

> U.K.

▪ Based on the establishment of e-envoy in late 1990 and robust leadership, the government showed clear vision of informatization and has made every effort to realize it.

* UKonline, informatization strategy in governmental aspect in Septemeber, 2000

▪ The government is to implement nation wide Internet accessibility and to establish electronic government by 2005 and to lead informatization by facilitating digital TV, which the U.K. has competitive advantage over other nations.

> Japan

▪ An informatization scheme, including the Millennium project (99.8) to recover from the depressed economy, was established for several times, and e-Japan strategy was designated as a primary IT strategy. (01.1)

▪ Revolutionary blue print of the second generation, e-Japan II, was announced which described as application and practice of technology that Japan has advantages over others. (02.7)

◆ Future plan

Achievement and improvement

- World's best IT infrastructure
- Improvement of information standards in every social aspect
- Establishment of IT industry as an infrastructure

⇔

- Falling short in qualitative performance of informatization
- Falling short in responsiveness to the adverse effects of informatization
- Lack of development of advanced technology

Changed environment

- Globalization and reorganization of world economic order
- Emergence of social problems according to informatization
- Expansion of digital economy and changes in employment structure
- Increase in importance of international cooperation

⇩

Future Plan

- Renovating social system through knowledge information
- Strengthening competitiveness and creating new driving force for economic growth
- Sophisticating future knowledge information base
- Strengthening international cooperation for a global information society