Dynamic u-KOREA

A Leap to Advanced Korea based on IT

IT 839 Strategy

Ministry of Information and Communication

Message from Minister

Two years have passed since the IT839 Strategy was set forth. For the past two years, the Ministry of Information and Communication has accelerated the introduction of cutting-edge IT services and endeavored to secure key technologies of future.

As a result, Korea's technologies have been recognized worldwide, with the WiBro (wireless broadband) technology being officially adopted as an IEEE standard, and the terrestrial DMB (digital multimedia broadcasting) technology as an ETSI standard. In addition, a foundation for the development of other promising industries such as RFID, intelligent service robots and telematics has been established.

However, the true success of the IT839 Strategy depends on our efforts down the road. The focus so far has been on laying the groundwork for commercialization through technology development. Now the IT industry of Korea faces a final challenge to promote commercialization of the technologies developed and reach overseas markets.

It is also urgent to create an environment where large and small IT companies grow in balance by developing software and strengthening the competitive edge of components and materials.

Against this background, the Ministry of Information and Communication aims to complement and advance the IT839 Strategy with a priority on market promotion and development of software, components and materials.

The Ministry of Information and Communication will spare no efforts in carrying out the IT839 Strategy to help open the era of $30,000 GDP/capita.

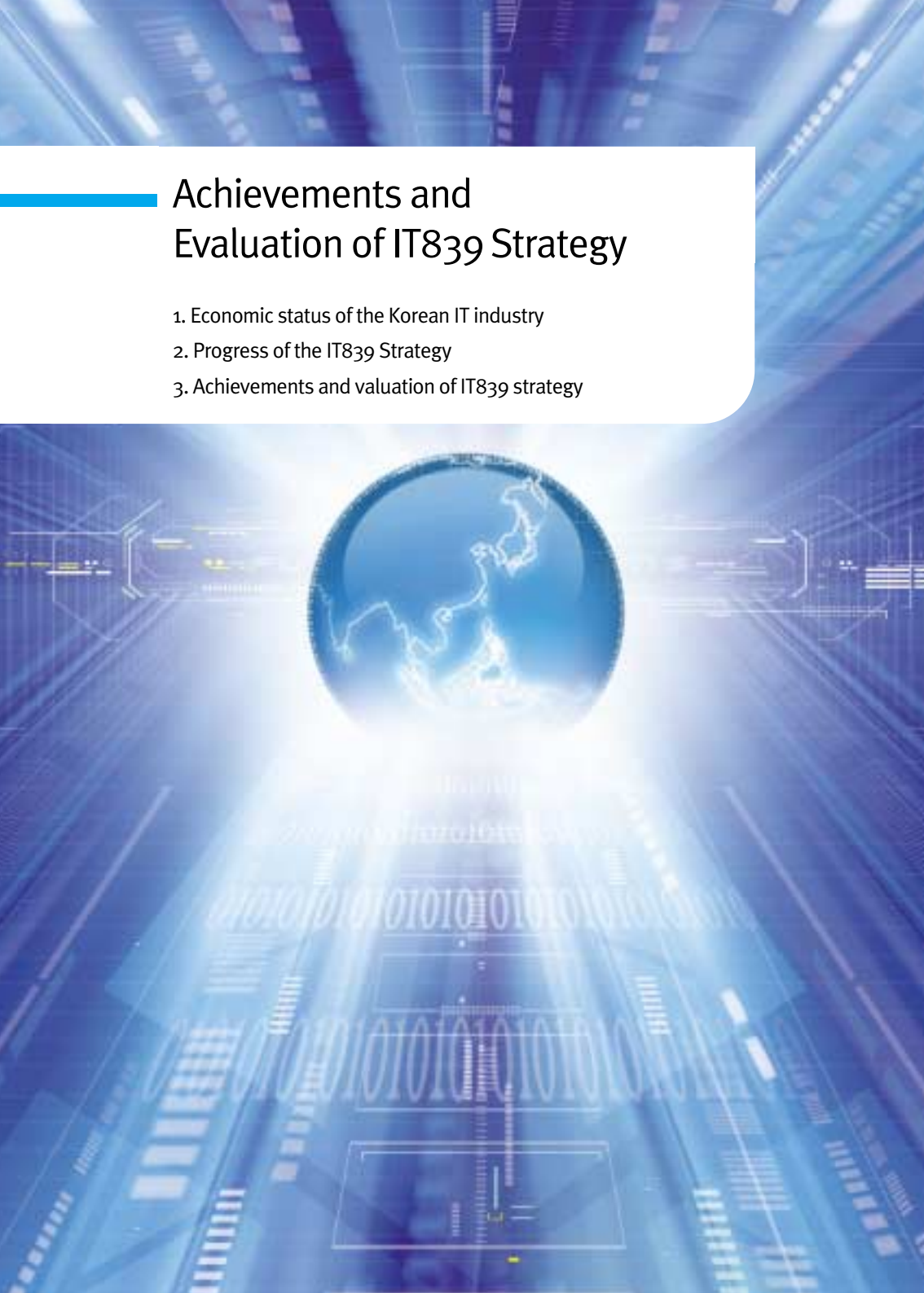
Jun Hyong Rho

Rho, Jun-hyong
Minister
Ministry of Information and Communication, Republic of Korea

CONTENTS

Achievements and Evaluation of IT839 Strategy

1. Economic status of the Korean IT industry
2. Progress of the IT839 Strategy
3. Achievements and valuation of IT839 strategy

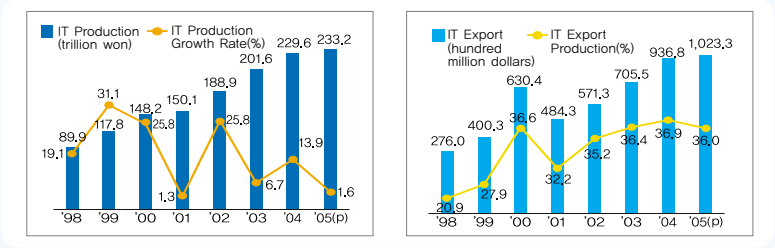


1. Economic status of the Korean IT industry

Korea's IT industry was the leading driving engine in recovery from the IMF crisis and emerged as a major industry group to lead Korea's economic growth

◉ IT industry recorded an annual growth rate of 14.6%(Annual current GDP growth rate : 7.5%)

Figure 1. Trend of Korean IT industry production and exports



[Source: Korea Association of Information and Telecommunication (KAIT)]

◉ IT exports in 2005 accounted for 36.0% of Korea' s total export volume, with mobile handsets, semiconductors, digital TVs and other IT products as major export items.

- IT account surplus in 2005 stood at 48.3 billion dollars, which is more than twice of the total account surplus.

※ Korea ranked top among OECD countries in terms of share of IT trade and share of IT account surplus (Source: OECD STI Scoreboard '05)

Korea's IT industry has shown an average annual GDP growth contribution ratio of 38.4% over the last 5 years (IT industry as a share of GDP : 9.5%, '00 → 15.0%, '05)

Table 1. IT industry's share of GDP and growth contribution ratio

	2000	2001	2002	2003	2004	2005
Share of GDP	9.5	10.1	11.1	12.3	13.8	15.0
Growth Contribution ratio (%)	32.1	25.2	26.3	51.3	42.6	46.5

[Source: Korea Information Strategy Development Institute (KISDI), Bank of Korea]

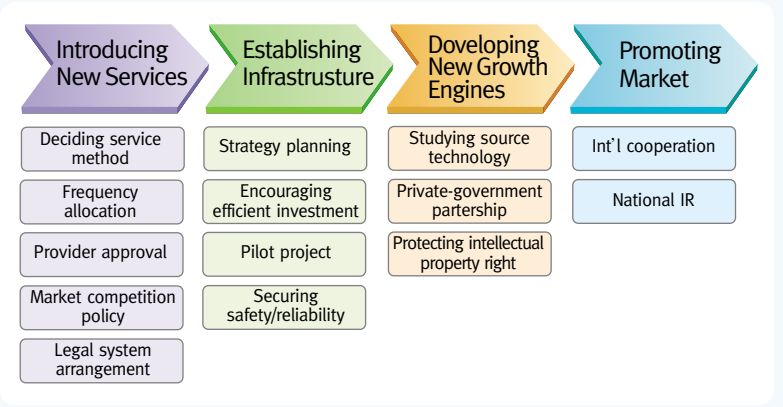
◉ During 2000~2004, IT industry significantly contributed to price stabilization by decreasing annual average consumer price by 0.22%p and producer price by 1.15%. (Increase ratio for annual average consumer price : 3.2%, producer price : 1.8%(Bank of Korea))

2. Progress of the IT839 Strategy

IT839 Strategy was established in the early days of the Participatory Government(Feb.'04) to present a new strategic vision for the IT industry with the aim of achieving USD 20,000 GDP per capita, amid deepening concerns over the decreased growth potential of the Korean economy.

- New IT growth engines that will lead the growth of the Korean economy for the next 5~10 years were explored from the end of 2002 to August 2003
  - Nine new major IT growth engines of devices, parts, and SW areas were designated in March 2003, based on 50 promising next-generation items listed in the Comprehensive IT Industry Development Plan drawn up at the end of 2002.
  - Based on this, development vision and strategy of each sector was made concrete and the Broadband IT Korea Strategy was confirmed in August 2003.
- IT839 Strategy was established in February 2004 as a virtuous cycle development strategy of the IT industry to achieve USD 20,000 GDP per capita
  - Previous "Broadband Convergence Network + 9 major new growth engines" development model is expanded and systemized into 8 major services and 3 infrastructures, based on the IT industry value chain.

Figure 2. Value chain of the IT industry and the role of the government



3. Achievements and valuation of IT839 strategy

IT839 Strategy was a landmark opportunity for Korea to move away from the "catch-up" development model of the past and to lead the world's IT market.

Core technologies to lead the ubiquitous IT era

- World's first technology development and global standardization of WiBro and DMB and leadership in high-tech IT technologies such as next-generation mobile telecommunication and mobile broadcasting.

  ※ Terrestrial DMB : adopted as standard for mobile broadcasting service(July '05) European Telecommunications Standards Institute (ESTI)
  WiBro: adopted as 802.16e standard(Dec.'05) Institute of Electrical and Electronics Engineers (IEEE)

- Technological foundation for RFID market expansion such as procurement, logistics and national defense was made, and pilot project for intelligent robot was launched.

Seamless introduction of new services that will lead the development of the IT industry' s virtuous cycle

- VoIP was successfully introduced at the end of 2005, and WiBro service will be commercialized in the first half of 2006
- Terrestrial DTV transmission method was decided(July '04) and terrestrial DMB service was launched(Dec. '05), followed by satellite DMB(May '05).
- Convergence service markets were created-exemplary telematics and home network project were implemented, and integrated traffic information system was developed(Dec. '05).

Strengthened global IT position of Korea and establishment of ubiquitous IT hub base

- ITU ranked Korea first among 40 advanced countries in the digital opportunity index evaluation.
- Successful IT marketing was carried out during ITU Telecom Asia (Sept. '04) and APEC Meeting (Nov.'05) and twelve R&D centers are hosted.

  ※ Intel, Fraunhofer IGD, IBM, Siemens, HP, Agilent, Microsoft, Sun, On-Semi, AMD, SAP, Texas Instrument

- Construction of Songdo u-IT Cluster which aims to become a ubiquitous IT hub (Nov. '05) and NuriTcum Square which is set to become the center of the SW/Contents industry, was initiated(Sept. '05).

u-IT839 Strategy

1. Background
2. Re-adjusting strategy items
3. Implementation Strategy

1. Background

IT839 is the most significant strategy that encompasses Korea' s overall IT industry policy. It is expected to shape the future of the IT industry and is making great contribution to laying the foundations for new growth that will lead the ubiquitous IT

- IT839 Strategy successfully created new growth engines - such as WiBro, DMB, and RFID - that did not exist 2 or 3 years ago, but which are expected to generate a production worth 60 trillion KRW by 2010.

Table 2. WiBro, DMB, RFID, and Telematics production forecast

(Unit: hundred million KRW, %)

	2005	2007	2010	Sum of production-('05~'10)	GAGR-('05~'10)
WiBro	-	12,952	39,715	129,359	23.6
DMB	2,043	29,257	114,546	303,009	123.8
Telematics	4,682	13,053	21,522	84,376	35.7
RFID/USN	2,902	9,450	38,000	96,633	67.3

[Source: Sum of production forecast of related services and device, KISDI, ETRI]

- However, despite tangible results in some strategic areas, many tasks still lie ahead, including the need to strengthen competitiveness of SW and IT parts/material and to proactively cope with the spread of convergence.

Global competitiveness is deepening with Korea becoming the world' s leading IT player

- Advanced countries are making all-out efforts to keep competitive edge in the high-end IT sector.
- Developing countries including China are taking up a large share of the global market in the low-end IT technology sector and rapidly reducing the technology gap between Korea.
- It is expected that growth of the IT device sector, in which Korea has competitive edge, will slow down during 2005 to 2009 to an annual average of 2.8%, and the less competitive SW and service sector will record a high growth of 5.7%.

It is urgent to strengthen the SW and parts/material sector to promote balanced development of the IT industry and create new jobs

◉ Weak competitiveness of SW sector, which is the core infrastructure of the knowledge-based economy and that has high employment coefficient.

※ Employment coefficient of each IT sector(employment chart of '00)
- SW 15.5, telecom&broadcasting device 7.2, semiconductor 4.7, manufacturing sector average 9.7

The background for upgrading the original IT839 Strategy is to cope with external and domestic changes of the IT environment in a speed and soft manner.

⇒By reinforcing competitiveness of the SW and parts/material sector, which are the key parts in expanding the IT industry, an environment where both large IT companies and SMEs can grow in a balanced way will be created.

2. Re-adjusting strategy items

- The original IT839 strategy portfolio, which was made according to the "New growth engine designation criteria" of August 2003 was already widely accepted, and private investment is currently underway

  - ◉ Therefore, re-adjustment of strategy items will be made basically within the framework of the original IT839 Strategy as long as it reflects changes of IT technology, market environment and policy priority.

- Some items will be re-adjusted to maximize connection between the 8-3-9 sectors, while clearly defining the concept and role of each areas that are made to "service → infrastructure → new growth engines"

  - ◉ "Service" is conceptualized as a "trigger" of IT industry development, "infrastructure" as the SOC of the knowledge-based economy and "new growth engine" as the "cash cow" for achieving USD 30,000 GDP per capita.

    ※ Three infrastructures including BcN are not an industrial concept, but shall be viewed as an economic basis.

- Some items will be integrated considering technological development including terminal convergence, and S/W will be included into the "8-3-9" lineup to reflect policy intention of strengthening software competitiveness

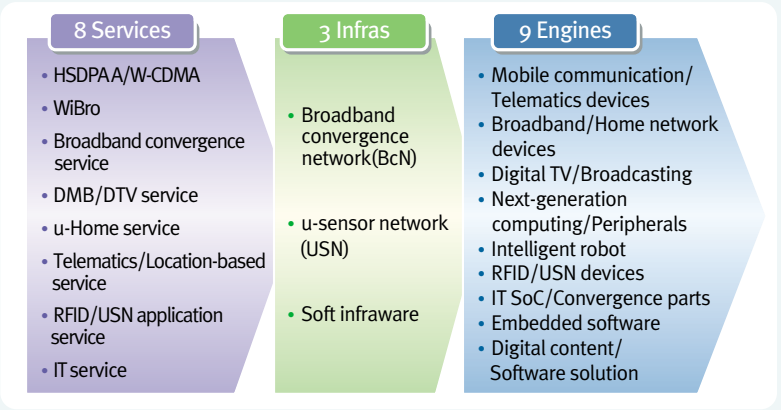
  - ◉ Strategy items will be increased and adjusted so that 8 service areas can include future directions such as convergence among industries, 9 new growth engines can reflect new growth vitality.

- Through continuous item re-adjustment and rolling plan followed by changes of IT technology and market environment, IT839 Strategy has become the brand of Korea's IT policy

All SW areas have been included in u-IT839 for take off with the objective of building a "Strong Software" country

◉ A consistent line-up is to be composed for software industry development, together with the current "embedded software" and "digital contents/software solutions," by adding "IT service" and "soft infraware" according to the "service → infrastructure → new growth engines" value chain.

Figure 3. Items of u-IT839 Strategy



For 8 major services, the direction of a future technology evolution has been considered, and strategic items have been adjusted to accommodate the convergence trend

◉ The previous W-CDMA has been changed to "HSDPA/W-CDMA," and DMB and terrestrial DTV have been integrated and expanded to the "DMB/DTV service" to accelerate digital conversion.

◉ IP media, the core service element to speed up the convergence of communication with broadcasting and convergence among industries, has been separated from BcN, while the "broadband convergence service" has been newly added.

◉ The VoIP service is already being provided (Nove. '05) and the competitive market has been created. As it is expected to develop along with various convergence service types, it has been excluded from the 8 major services.

- The previous home network service has been adjusted to the "u-Home service" which encompasses the residence/area based information service, whereas the previous telematics has been expanded to the "telematics/location-based service."

Industrial elements such as devices and services have been extracted from the 3 major infrastructure areas, to be included among the 9 new growth engines or 8 services

- The mechanical elements of the "u-Sensor Network (USN)" such as chips, tags, and readers have been moved to the "RFID/USN devices" item.
- The mechanical element of BcN has been integrated with the previous "home network" to become "broadband/home network devices." Service elements like IP media have been moved to the "broadband convergence service." The next generation Internet addressing system (IPv6) has been integrated into the "broadband convergence network."

  ※ The policy for 3 infrastructures - the tangible/intangible capital stock that supports the knowledge-based economy - has been switched in a direction that pursues optimization at the national economy level.

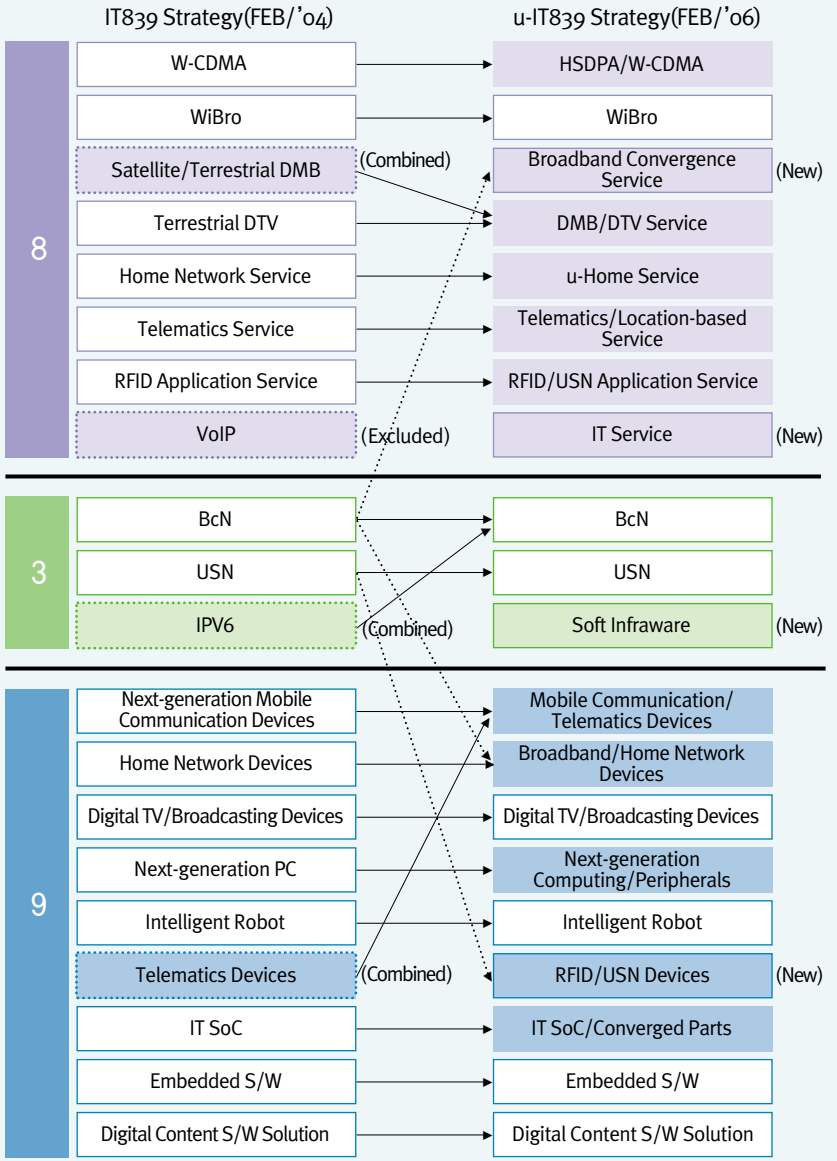
The policy for 9 growth engines has been adjusted to expand the coverage

- With the acceleration of handset convergence, mobile communication and telematics devices are being combined into " mobile communication/telematics devices" and renamed as "broadband/home network devices" to embrace fixed-line based communication devices.
- "Next-generation PC" is being expanded to "next-generation computing/peripherals" to increase growth vitality in a computing area that is now drawing great attention.
- IT SoC" has been expanded to "IT SoC/convergence parts" to develop system-associated IT parts/materials and bring up the IT-BT-NT convergence parts industry. The "RFID/USN devices" has been added.

The arrangement of other 8-3-9 items has been adjusted according to the interrelation of "Communication → Broadcasting → Convergence" and "Service → Infrastructure → New growth engines"

〈Reference〉

Re-adjustment of strategy items



Implementation Plan

1. [8 services]-Market vitalization

- HSDPA/W-CDMA
- Broadband Convergence Service
- u-Home Service
- RFID/USN Application Service
- WiBro
- DMB/DTV Service
- Telematics/Location-based Service
- IT Service

HSDPA/W-CDMA
(High Speed Downlink Packet Access/Wideband-CDMA)

Current Status

- HSDPA/W-CDMA is an ATM-based IMT-2000 service that provides voice, image and high-speed data service at 2GHz bandwidth frequency.
- Since the commercialization of W-CDMA in December 2003, 1.9 trillion KRW was invested by 2005, completing network setup in 23 major cities including the metropolitan area.

Goal and Strategy

W-CDMA network setup will be expanded to 84 cities nationwide in 2006, HSDPA service will be initiated and 5 million subscribers will be secured by 2010

- Services will be improved through differentiated service provision such as display phone, global roaming and through the introduction of various handsets.
- Continuous network investment and service quality enhancement will be made through objective service quality measurement criteria.
- Technological and business issues related to service promotion will be dealt timely through a 「W-CDMA working group」 composed of experts from industry, academia and research institutes.

Expected Results

- Nationwide service expansion of HSDPA/W-CDMA is expected to create 5.3 trillion KRW in service production and 2.7 trillion KRW in added value from 2006 to 2010.
- Based on the vibrant domestic market, Korean IT companies are expected to actively advance to the world' s W-CDMA market that has been fully taking shape since 2005.

WiBro(Wireless Broadband)

Current Status

- Wireless Broadband Service is a telecom service that provides high-speed wireless Internet connection anytime anywhere, even on the move.
- Licensing of operators was completed in March 2005, WiBro was successfully demonstrated during the Busan APEC summit in November 2005, and as of 2006 investment for commercialization is under way.

Goal and Strategy

WiBro service will be commercialized in the first half of 2006, network setup will be expanded and 8 million subscribers will be secured by 2010.

- To smoothly provide services, difficulties will be continuously solved, and a specialized rate system for the WiBro service will vitalize the early market.
- The basis to promote broadband wireless Internet service will be provided through regular examination on the implementation of WiBro network opening and investment performance of operators.
- Through cooperation activities at the international level, overseas market for WiBro will be explored.

Expected Results

- Introduction and promotion of the world' s first WiBro service is expected to create 7 trillion KRW in service production and 3.9 trillion KRW in added value from 2006 to 2010.
- Inexpensive use of broadband wireless Internet will enhance consumer convenience and provide basis for the usage of various application services.

Broadband Convergence Service
(BCS : Broadband Convergence Service)

Current Status

- Broadband Convergence Service is a new convergence service that transmits and receives various contents through the Broadband Convergence Network(BcN) on a real-time and on-demand basis.
- Since 2005 BcN pilot operators are providing pilot service such as Octave(KT), Gwanggaeto(Dacom) and Ubinet(SKT) with the exception of real-time broadcasting.

Goal and Strategy

Legal framework for service introduction will be provided in 2006 and world' s best BCS usage environment will be created by 2010.

- Legal framework for the introduction of broadband convergence service will be provided at an early stage through close consultation with related agencies such as the Korean Broadcasting Commission.
- A next-generation business model will be promoted to facilitate fusion between the telecom and broadcasting industry.
- A market environment that can vibrantly create and supply killer contents, which are the key in service expansion, will be made.

Expected Results

- Introduction of BCS is expected to create 1.8 trillion KRW in service production and 0.9 trillion KRW in added value from 2006 to 2010.
- New added values will be created and user convenience be enhanced by accelerating industrial convergence including the convergence of telecom and broadcasting.

DMB/DTV Service
(Digital Multimedia Broadcasting/Digital TV)

Current Status

- DMB/DTV service is a next-generation multimedia broadcasting service that overcomes the limits of traditional broadcasting such as TV watching while on high-speed move and high-definition broadcasting, and is also linked to the telecom network.

- Regular broadcasting of terrestrial DMB started in December 2005 in the metropolitan area and approval of 154 digital TV broadcasting stations in cities and military sites are completed.

Goal and Strategy

Nationwide DMB and DTV network will be completed by 2006, 15 million DMB users will be secured and more than 10 million DTVs will be provided by 2010.

- Korea will participate in setting up a global DMB belt based on international cooperation.

- New added value will be created through the development of bothway service technology and individual customized service technology, based on the integration of DMB and wireless telecom network.

- Plan to promote the spread of digital TV will be established in the early half of 2006 to accelerate the transition to digital broadcasting.

Expected Results

- Nationwide DMB service expansion is expected to create 3.1 trillion KRW in service production and 0.7 trillion KRW in added value from 2006 to 2010.

- Various and convenient media consumption environment is expected to enhance welfare of the public by encouraging digital cultural living and narrowing digital divide.

u-Home (ubiquitous Home) Service

Current Status

- u-Home service encourages information usage at the residential/regional level such as Home-auto, u-Security and u-Health based on Home Network.
- Sixty types of u-Home service models are applied to 1,300 households through continuous Home Network pilot projects since 2003.

Goal and Strategy

Home Network Service will be promoted in 2006 and make Korea the world's top model country in u-Home service by 2010.

- New business models to promote u-Health and u-City will be made and implemented along with the setup of u-Society safety net.
- Major achievements of u-IT839 strategy will be exhibited and Ubiquitous Dream exhibition hall will be upgraded to provide experience of the future u-Life.

Expected Results

- Emergence and expansion of various u-Home services are expected to create 1.1 trillion KRW in service production and 0.6 trillion KRW in added value from 2006 to 2010.
- A rich and affluent u-Life will be provided by transforming homes into pleasant and comfortable living spaces.

Telematics/Location Based Servic

Current Status

- On-the-move information utilization service that provides traffic, emergency rescue and logistics information based on location information secured through the telecom network.
- Initial market base is created through the promotion of Telematics Pilot City Project in Jeju Island and legislation of the 'Act on the Protection and Usage of location information' in January 2005.

Goal and Strategy

1 million Telematics service subscribers will be secured in 2006 and market will be vitalized to meet the goal of 5 million subscribers by 2010.

- Traffic information such as nation' s highway and street map will be provided through one-stop service by 2007 in cooperation with the Ministry of Construction and Transportation and the National Police Agency.
- An environment to foster the development of handset, contents and service such as standardization between in-vehicle telecom network and handset and the promotion of open-type operation system.
- u-social safety net pilot project based on location-based service will be carried out to the elderly who live alone or suffer from dementia and also to the disabled.

Expected Results

- Telematics/Location Based Service is expected to create 2.6 trillion KRW in service production and 1.1 trillion KRW in added value from 2006 to 2010.
- Ripple effect of related industries such as automobile, mobile telecom terminals, SW and contents will be maximized and growth of the national economy will be lead through new revenue creation.

RFID/USN Application Service
(Radio Frequency Identification/u-Sensor Network)

Current Status

- RFID/USN is a ubiquitous service that processes and provides information anytime anywhere by providing sensing, computing and telecom functions to all objects.
- Improved public awareness by carrying out twelve public sector RFID/USN industry pilot projects in 2004 to 2005.

Goal and Strategy

Large-scale RFID/USN projects and service models of mobile RFID will be discovered in 2006 and be applied in the daily lives of the people by 2010.

- Demand will be created and market will be vitalized through RFID projects regarding sectors with great public process improvement and ripple effect such as defense and procurement.
- World' s first 900MHz bandwidth mobile RFID service will be introduced to expand technologies at an early stage from the existing B2B to B2C area.
- Consulting service will be provided to innovate businesses of the overall industry through RFID/USN technology and information protection measures will also be strengthened.

Expected Results

- Expansion of RFID/USN service in the public and private sector is expected to create 4.5 trillion KRW in service production and 2.1 trillion KRW in added value from 2006 to 2010.
- Quality of life of the public will be enhanced through the realization of world' s best ubiquitous environment that makes objects intelligent and enables networking between object to object and object to person.

IT Service

Current Status

- IT service refers to the overall industry that provides entire services related to IT including system planning, design, setup and operation of companies and governments.
- Domestic IT service companies have weak global competitiveness due to business focused on domestic market, insufficient human resource and weak production quality management capability.

Goal and Strategy

Through an established ordering system of the advanced SW project and creation of new market in 2006, Korea will lead the knowledge-based society focused on IT service in 2010.

- Large-scale informatization projects such as the u-City will be pioneered and IT service market will be created by encouraging the participation of developing economies' informatization projects.
- An environment to pay the full price of SW will be fostered through the improvement of irrational purchasing practice, SW quality management capability will be strengthened and excellent human resources will be trained.
- Knowledge capability will be comprehensively strengthened to enable IT service companies to lead convergence between industries as an industry shaper.

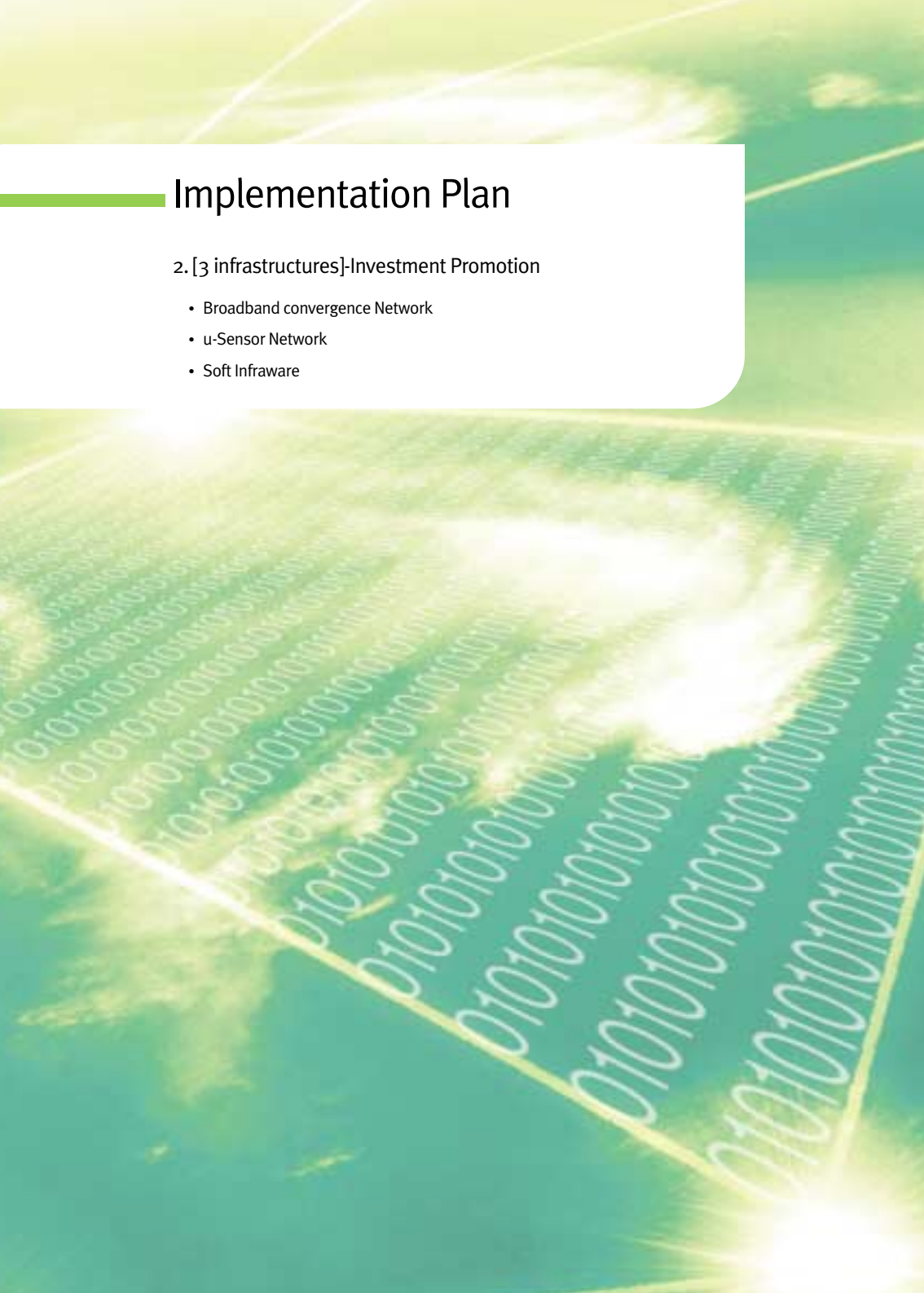
Expected Results

- Continuous market creation to promote convergence and specialization of IT service companies is expected to create 85 trillion KRW in production and 28.5 trillion KRW in added value from 2006 to 2010.
- Transition toward a knowledge-based service economy will be accelerated through the promotion of the high value-added IT service market.

Implementation Plan

2. [3 infrastructures]-Investment Promotion

- Broadband convergence Network
- u-Sensor Network
- Soft Infraware



Broadband convergence Network

Current Status

- Broadband Convergence Network is a next generation network that enables convergence multimedia services of telecommunications, broadcasting and the Internet anytime and anywhere.
- 50~100Mbps broadband service was provided to 2.56 million fixed-line subscribers and 1Mbps service was provided to 560,000 wireless subscribers.

Goal and Strategy

BcN that can provide broadband service to 5 million subscribers in 2006 and to 20 million subscribers by 2010, will be established.

- New Internet address system(IPv6) will be introduced and a telecom network with strengthened QoS(Quality of Service), mobility and security will be established.
- BcN service model will be discovered, innovation activities for the setup of BcN will be promoted and verification through the integrated broadband R&D network will be carried out.
- BcN quality management and interoperation criteria will be provided, sophistication of subscriber network/premise network will be promoted and BcN related legislation will be improved to promote usage.

Expected Results

- To establish BcN that underpins the knowledge-based economy, 40.3 trillion KRW is expected to be invested from 2006 to 2010.
- To establish the world's first Broadband Convergence Network, ubiquitous service environment will be realized and core base for new IT growth engines will be provided.

u-Sensor Network (Ubiquitous Sensor Network)

Current Status

- u-Sensor Network is a basic infrastructure for the management and interoperation of object information, as it is a wireless network composed to collect information recognized from each sensor.
- Basic technology development such as sensor nod/tag is being developed and on the spot examination is being carried out for various service model development and pilot application.

Goal and Strategy

Pan-governmental RFID/USN system will be developed in 2006 and world's best u-Life environment will be established by 2010.

- Pan-governmental promotion system and USN establishment plan will be developed to introduce and expand RFID/USN at an early stage at the national level.
- Legislation will be improved to promote the establishment of u-City with the Ministry of Construction and Transportation and u-City standard model and pilot projects will be developed.
- The establishment of u-Sensor information management system will be promoted to comprehensively manage ubiquitous sensor information.

Expected Results

- To establish USN, the overall economy is expected to invest 7.1 trillion KRW including public sector investment from 2006 to 2010.
- Foundation to enter the ubiquitous society at an early stage through the world's first USN establishment will be provided and a rich u-Life living environment will be created.

Soft Infraware

Background

- Soft infraware is software infrastructure that effectively realizes IT convergence and creates a reliable and convenient user environment.
  ※ It is composed of u-computing common platforms such as WIPI (Wireless Internet Platform for Interoperability), u-service linked platforms using web-services, SW quality guarantees, and information security.

- As the user environment becomes more complicated with the emergence of various networks and devices, software that enables simple and convenient user interfaces is important.

Goal and Strategy

Technology capacity to achieve interoperability among the eight services will be enhanced by 2006 to create the optimal IT convergence environment in 2010.

- Basic technologies that integrate device-specific services such as telematics and intelligent service robots will be secured and promoted.

- Intelligent information services and an online SW distribution system will be introduced for the innovation of SW usage and its distribution.

- Laws and regulations necessary for reliable and integrated services such as SW quality guarantees and information security will be gradually revised.

Expected Results

- Soft infraware is expected to provide interoperability and continuity between the items of the IT839 Strategy, creating new convergence services and contributing to added value in the IT industry.

- With leadership in soft infraware and active participation in standards development, Korea will be able to become a leader in software by 2010.

Implementation Plan

3. [9 Growth Engines]-Full-scale distribution of achievements in technology innovation

- Mobile Communications/Telematics Devices
- Broadband/Home Network Devices
- Digital TV/Broadcasting Devices
- Next-generation Computing/Peripheral Devices
- Intelligent Service Robot
- Radio Frequency Identification/u-Sensor Network Devices
- IT System on Chip/Convergent Components
- Embedded Software
- Digital Contents/Software Solution

Mobile Communications/Telematics Devices

Background

- Mobile communications/telematics devices are used to provide a fast and clear access to multimedia information, while on the move or at a standstill, via mobile and satellite communication networks.

- In 2005, the 30Mbps-level WiBro technology was developed and the WiBro technology was officially adopted as an IEEE 802.16e standard (Dec. '05).

Goal and Strategy

The HSDPA TDD technology will be secured by 2006 and 4G mobile communications technologies, by 2010.

- The private sector will lead the development of advanced WiBro technologies as well as key mobile technologies in 3G Evolution and 4G and actively participate in standards development.

- Shared facilities (test-lab) to support certification of various mobile devices based on CDMA, GSM and WiBro will be expanded.

- A Mobile Special District where various mobile devices and services are tested and used will be built.

Expected Results

- From 2006 to 2010, mobile communications/telematics devices are expected to generate 230.5 trillion KRW in production and 99.8 trillion KRW in added value.

- Korea is expected to gain global leadership in the mobile area by introducing next-generation mobile communications services and technologies.

Broadband/Home Network Devices

Background

- Broadband/home network devices refer to technologies and devices used for quality guaranteed Broadband convergence Network (BcN) that integrates telecom, broadcasting and the Internet and for home network that provides multimedia contents services.

- A quality guaranteed multimedia switch system was developed and applied to commercial networks. The development of 100Mbps-level UWB (Ultra Wide Band) chipset prototypes was also completed.

Goal and Strategy

Open-type home network framework will be developed in 2006 and BcN technologies that ensure multimedia QoS will be developed by 2010.

- Keeping up with the trends of BcN and home network technologies and markets, an effective strategy to secure key technologies will be pursued.

- Main focus will be on technologies with a competitive edge, but a unit technology will be developed in a lego-type module to be applied to other areas.

- In order to create synergic effects from IT839 growth engines (BcN, IPv6, home network, etc.), pilot projects will be inter-linked and integrated.

Expected Results

- From 2006 to 2010, broadband/home network devices are projected to create 2.8 trillion KRW in production and 1.0 trillion KRW in added value.

- By driving sustained development of broadband communications technology, an environment in which broadband multimedia services are accessed regardless of space and time will be created.

Digital TV/Broadcasting Devices

Background

- The digital broadcasting technology enables users to choose high-quality contents anytime anywhere and enjoy value added services through intelligent TV and other devices.
- Uni-directional terrestrial DMB transmission-reception systems and user-tailored broadcasting prototypes are under development for creation of new broadcasting services and devices.

Goal and Strategy

Bi-directional DMB transmission-reception systems will be designed by 2006 and 2G DMB technologies will be developed by 2010.

- To expand the DMB market and maintain Korea's competitive edge, terrestrial DMB transmission technologies will be advanced by stages.
- Optimal broadcasting systems and ubiquitous contents tailored to intelligent broadcasting services in a convergence era will be fostered.
- Based on advanced digital TV/broadcasting technologies, the competitiveness of end-products will increase.

Expected Results

- From 2006 to 2010, digital TV/broadcasting devices are expected to create 78.4 trillion KRW in production and 32.9 trillion KRW in added value.
- By putting high added value to digital TV, digital TV is likely to be established as a key growth engine of "Dynamic u-Korea."

Next-generation Computing/Peripheral Devices

Background

- Based on network advances, computing/peripheral devices are projected to become high performance, multi-functional and user-centered devices.
- Watch-type PC, wearable computer platforms and bio-shirts will be developed, laying the foundation for human-centered IT services.

Goal and Strategy

In 2006, a wearable healthcare system will be designed. Next-generation computing infrastructure for ubiquitous services will be built by 2010.

- Source technology will be obtained in areas of healthcare systems and sense information processing, and development of industrial and entertainment terminals will be accelerated.
- A technology development framework for next generation computing/peripheral devices to be used for customized ubiquitous services will be established.
- Application scenarios for new computing technology models will be written and standard development for interoperability of various devices will be pursued.

Expected Results

- With strategic development of next-generation computing/peripheral devices, production worth 37.4 trillion KRW and added value worth 14.5 trillion KRW will be created from 2006 to 2010.
- The computing and peripheral device industry will be advanced and accomodate innovative concepts, promoting new IT culture through digital lifestyles.

Intelligent Service Robot

Background

- Network-based intelligent robot technologies and devices that satisfy user demand anytime anywhere are the key industry of future.
- URC (Ubiquitous Robotic Companion) servers and robot platform prototype technologies will be developed and used for pilot services. Also, a technical basis for network-based humanoid that recognizes its user will be built.

Goal and Strategy

In 2006, a low-cost robot priced at around one million dollars will hit the market. By 2010, Korea is expected to become one of the strongest intelligent service robot producers in the world.

- An effective framework that facilitates collaboration among robot manufacturers, telecom operators, parts and contents providers and research institutes will be created.
- For interoperability between robots and various devices, Robot Unified Platform Initiative (RUPI) will be pursued.
- Dog- and horse-type robots will be introduced to integrate defense and IT, and pilot services will be carried out to expand the scope of URC applications. To boost the market, laws and regulations will be revised.

Expected Results

- From 2006 to 2010, intelligent service robots are expected to generate 5 trillion KRW in production and 2 trillion KRW in added value.
- Combination of robots and IT will achieve human interface and increase the quality of life.

Radio Frequency Identification/u-Sensor Network Devices

Background

- RFID/USN devices that recognize objects and gather information on their surrounding environments include RFID chips, tags, readers and USN sensors/nodes.
- RFID tags and readers with basic functions were developed and USN devices are at the early stage of developing individual elements.

Goal and Strategy

In 2006, portable terminal technologies with a built-in RFID reader SoC will be secured. An RFID tag priced at 5 cents is expected to be mass produced by 2010.

- Since key technologies of RFID devices have been developed, efforts in the future will focus on the promotion of application technologies such as mobile RFID through small components and sophisticated technology.
- In the area of USN, key technologies such as sensor tags and sensor nodes will be developed.
- An innovative industrial development basis will be founded centering on the Song-do u-IT cluster (2006~2010) which aims at becoming a global RFID/USN cluster.

Expected Results

- From 2006 to 2010, RFID/USN devices are expected to generate 4.8 trillion KRW in production and 1.8 trillion KRW in added value.
- RFID/USN devices will create a ubiquitous environment, enhancing safety and convenience in our daily lives.

IT System on Chip/Convergent Components

Background

- IT SoC and components are the key factor that determines competitiveness of IT products, and convergence technology is a new area where IT and nano/bio integrate.
- With a focus on SoC, IT component technologies as well as convergent technologies including realistic communications, u-health, u-environment and u-safety are being developed.

Goal and Strategy

A low-power image processing chip technology for mobile handsets will be developed in 2006, and Korea will become one of the most advanced IT SoC and components producers in the world by 2010.

- Commercial promotion and human resource development which are the basis for SoC industrial development and SIP (System in Package) designing will be pursued.
- A component standard management system as well as a system/service-based technology innovation system will be established.
- An technology innovation system that helps develop source technologies in the mid-to-long term will be set up with a focus on the characteristics of IT-based BT/NT parts and materials.

Expected Results

- The enhanced competitiveness of the non-memory sector is projected to create 27.2 trillion KRW in IT SoC/convergent components production and 6.6 trillion KRW in added value from 2006 to 2010.
- An IT SoC/convergent components technology promotion system will be strengthened and a related venture ecosystem will be established, leading to the joint development of systems and components.

Embedded Software

Background

- Embedded SW is software built in various devices such as information appliances, vehicles, robots, industrial equipment and medical equipment to increase added value of these products.
- Embedded SW is now being used in mobile handsets with a competitive edge and its application is being expanded to information appliances, telematics and robots.

Goal and Strategy

In 2006, embedded SW will be applied to telematics and robot pilot projects. Korea aims to grow into one of the world's strongest embedded SW producers by 2010.

- Standard-, micro- and nano-type embedded SW platforms will be developed and solutions specialized in telematics, robots and smart phones will be obtained.
- Innovation of embedded SW will be accelerated and nurturing of architect-level SW developers will be encouraged.
- The quality of Korean embedded SW will be improved through testing and certification supports, and collaboration between IT SoC and embedded SW industries will create synergic effects.

Expected Results

- When in-house development of SW embedded in various systems is included, production is expected to reach 46.5 trillion KRW from 2006 to 2010.
- The integration of Korea's strong manufacturing industry and embedded SW technologies will enhance competitiveness of other IT growth engines.

Digital Contents/Software Solution

Background

- Digital contents and SW solutions are a strategic industry of the future that increases value of highly networked environments, intelligent service robots and telematics.
- Digital actors for supporting roles were used in Korean blockbuster movies. Open source SW based servers and desktop standard platforms are under development.

Goal and Strategy

Open source SW for desktop computers will be promoted in 2006. Korea will emerge as one of the largest digital contents producers in the world in 2010.

- Based on market demand, the development of digital actor technology, multi-dimension CPU-based HD game engines and open source SW will continue.
- The development capabilities of next-generation contents for new telecom and broadcasting services will be strengthened and mutual collaboration of telecom operators, device manufacturers and contents providers will be encouraged.
- A base for industrial innovation and global networks will be formed centering on the Sangam Nuritcum Square (expected to be completed by ' 07), which is a cutting-edge SW and contents cluster.

Expected Results

- From 2006 to 2010, digital contents and SW solutions are projected to generate 83.8 trillion KRW in production and 69.4 trillion KRW in added value.
- Digital contents and SW solutions will realize u-Korea that provides customized, realistic information to users anytime anywhere.

Expected Results

The age of new IT growth will open by implementing market-oriented u-IT839

- An average annual growth of 14% is expected from 2006 to 2010 in the u-IT839 Strategy areas.

Table 3. u-IT839 Production Forecast ('05 ~ '10)

(Unit: hundred million KRW)

	2005	2006	2007	2008	2009	2010	'05~'10 CAGR
8 services	130,897	148,982	173,444	208,858	247,730	281,288	16.5%
9 growth engines	621,950	714,557	815,253	935,849	1,053,926	1,180,425	13.7%
Total	752,847	863,538	988,698	1,144,707	1,301,656	1,461,713	14.2%

[Source: Combined data from IITA, ETRI, and KISDI]

- Based on these activities, new added value that amounts to 575 trillion KRW in terms of production (accumulated) and 266 trillion KRW (accumulated) throughout the economy between 2006 and 2010 will be generated.

World' s best IT infrastructure for a ubiquitous society will be established at an early stage.

- BcN for communication, broadcasting, and Internet convergence will be completed.

Table 4. BcN Implementation Goals

(Unit: household/subscriber)

	Foundation creation stage('04~'05)	Full-scale distribution stage('06~'07)	Build-up completion stage('08~'10)
Fixed line: 50~100Mbps	2.56million	5.7million	10million
1Mbps wireless data rate on average	0.56million	2.5million	10million
Sum	3.12million	8.2million	20million

[Source: Ministry of Information and Communication]

- USN will be established at an early date by inducing continuous RFID investment and creating u-IT clusters. In addition, soft infrastructure for convenient IT usage will be expanded.

By fully exploiting the IT839 Strategy, Korea will become a world-famous IT growth model country that leads the digital convergence and ubiquitous age.

Ministry of Information and Communication

Ministry of Information and Communication (www.mic.go.kr/www.DynamicITKorea.org)

(110-777) 100 Sejongno, Jongno-Gu, Seoul, South Korea
Contact : International Policy Planning Division (Tel +82-2-750-1414, Fax +82-2-750-1439)