

**Plenary Session V:
Korea: Leading Global ICT
Development**

James F. Larson, Ph.D.

A satellite photograph of Earth at night, showing the glowing lights of cities and the dark silhouette of the Korean peninsula. The lights are concentrated in the lower right quadrant, representing the Korean peninsula, and are scattered across the rest of the landmasses visible. The Earth's horizon is visible at the top, showing a thin layer of atmosphere and the dark space of the night sky.

Korea's ICT-led Development

1. Historical patterns and main influences
2. Key political, economic and social changes
3. Korea's vision of the "creative economy"

Seoul (Gwanghwamun) with Pukhansan in background

1950



2012



1960s-1970s Cold War/Korean developmental state



President Park Chung Hee's 1964 visit to the Berlin Wall

President Park Geun-hye, Dresden speech, March 2014:

"The Korean president who visited Germany at the time felt that Germany's rise from the ashes of the Second World War and its Miracle on the Rhine were feats that could be replicated in Korea. . . .he became convinced that Korea too would need its own autobahn and its own steel industry to effect an economic take-off."

Broadband as Infrastructure: From the Gyeongbu highway(Seoul to Busan)to Information Superhighways

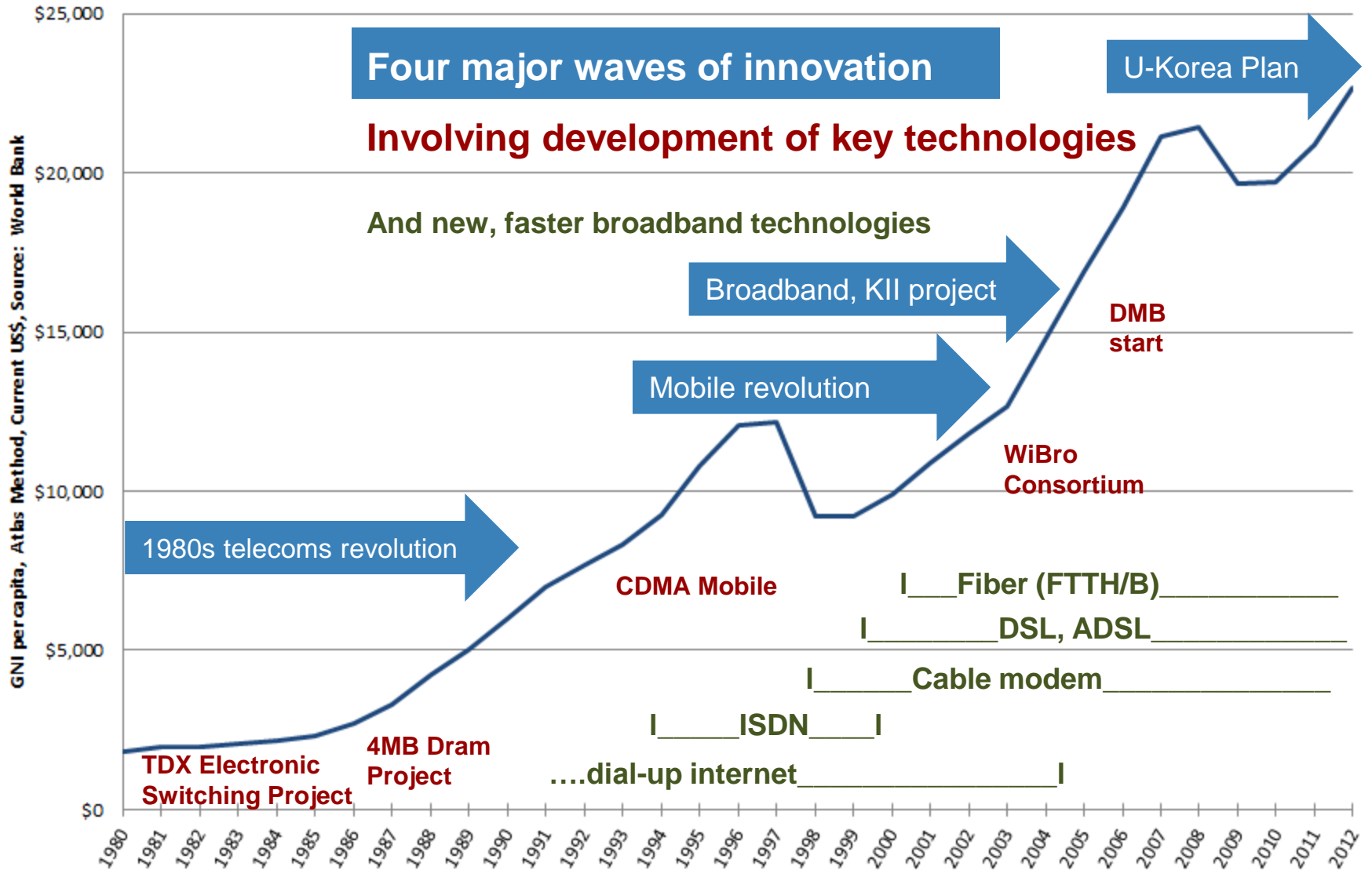
- 1970-Construction began on the Gyeongbu highway. President Park Chung Hee used it as a metaphor for development and eventual unification
- 1994-U.S. Vice President Gore-- UCLA “information superhighway summit”
- 1995-Korea began building its fiber-optic “information superhighways” (KII)

Map in *Donga Daily*, 1970

the Gyeongbu Highway



South Korea's ICT-led development, 1980-2012



From telephone backlog to mobile broadband leader

1980 service backlog:

- <2.8 million phone lines for pop. of 36 million



Waiting to use a phone (1974 photo)

30 years+ of mobile innovation



The iPhone and “smartphone shock”



Introduced in
the U.S. in 2007

- By 2009 it was popular in about 80 countries, but not yet in South Korea.
- On arrival “smart phone shock” rippled through the Korean market.

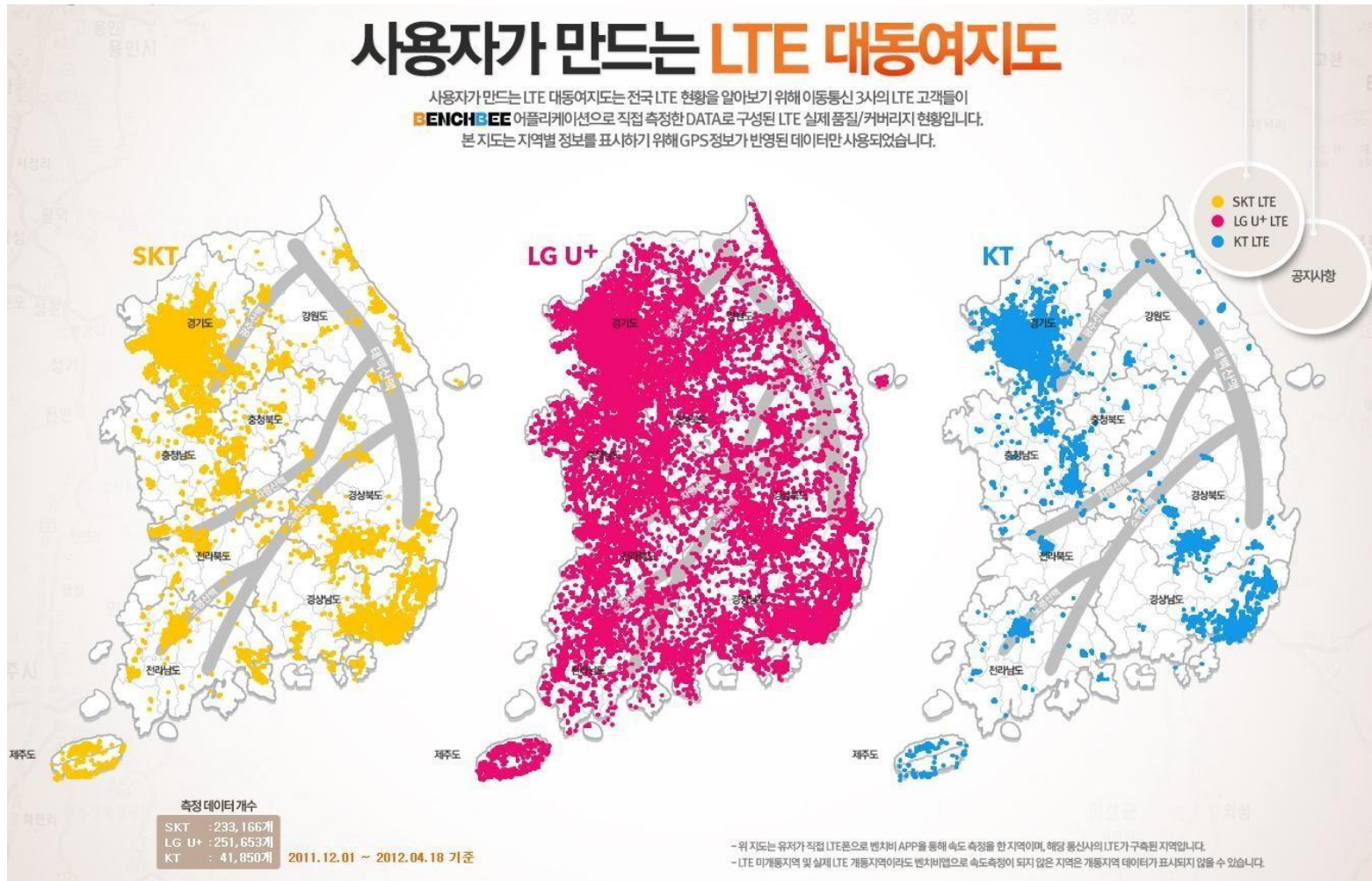
These days.....



LTE coverage as of 1st quarter 2012

사용자가 만드는 LTE 대동여지도

사용자가 만드는 LTE 대동여지도는 전국 LTE 현황을 알아보기 위해 이동통신 3사의 LTE 고객들이 **BENCHBEE** 어플리케이션으로 직접 측정한 DATA로 구성된 LTE 실제 품질/커버리지 현황입니다. 본 지도는 지역별 정보를 표시하기 위해 GPS정보가 반영된 데이터만 사용되었습니다.



Today's information superhighways and Korea's "*bbali-bbali*" culture



Education: the key success factor

Formal education



Capacity building



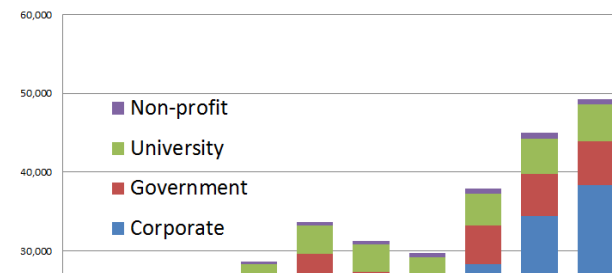
June is
Information Culture
Month

Study abroad

Korea's leading technocrats (10 of 21 MOC & MIC ministers) held Ph.D.s from U.S. universities

Research & Development

Korean R&D Expenditures by Major Source
Source: OECD, MSIP



Nearly half of national R&D expenditures since 2000 focused on the ICT sector

Note to ITU: the hangul alphabet accelerated computerization!

Korea Internet Case Study

1.2 What explains Korea's success?

Korea is not demographically suited to have the highest Internet penetration in Asia. It is the largest of the so-called *Four Tigers* (the others being Hong Kong, China; Singapore and Taiwan, China) both in terms of land area and population. The Republic of Korea's population stood at 47.7 million in 2001, twice as large as Taiwan, China, seven times bigger than Hong Kong, China and more than 11 times larger than Singapore.

Korea is also not economically suited to have the highest Internet penetration in Asia. All the other Tigers have a higher per capita income than Korea's US\$ 9'400 in 2001 as do 50 other economies. The World Bank classifies Korea as an upper-middle-income country, one category down from the high-income classification. Therefore, though Korea is not poor, it is not among the world's wealthiest nations. Hence, Korea's high level of Internet penetration is not strongly correlated to its income level.

Another factor seemingly weighing against Korea's ICT development is

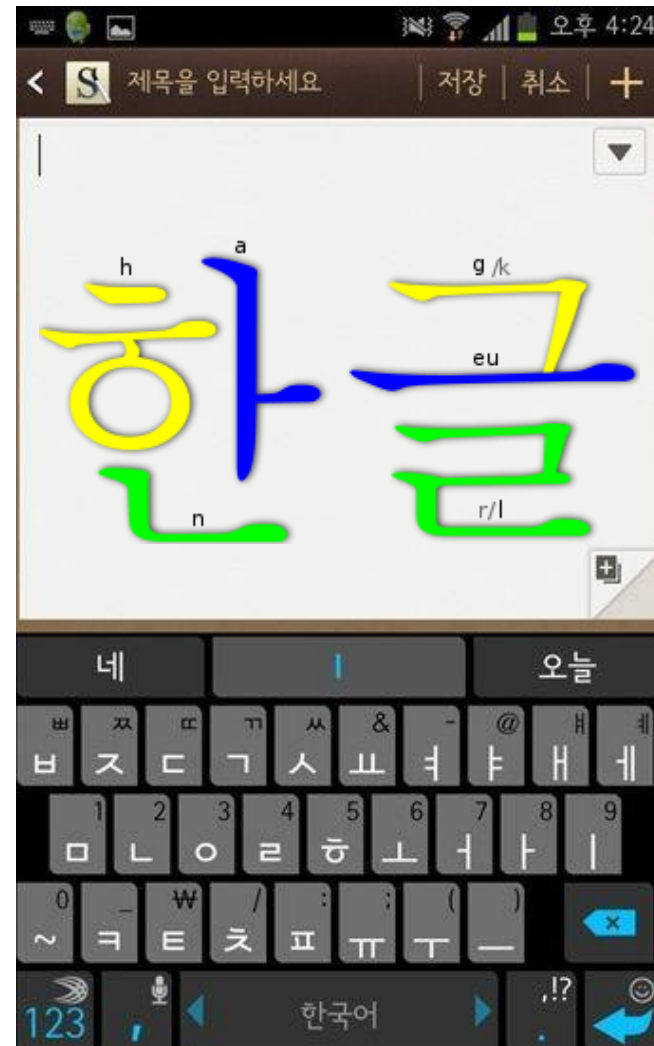
language. Koreans have their own language. Therefore, the country cannot easily leverage the vast amount of content developed in more widely spoken languages. The Korean alphabet, known as Han-gul, uses a pictographic font that is not ideally suited to computerization.

On the other hand, Han-gul is phonetic with one character representing a sound, making it easy to learn: "*Han-gul is a simple, scientific language. Learning how to read it is easy, which is probably one of the reasons why Korea has one of the highest literacy rates in the world.*"²¹ This is where the tide starts turning in Korea's favour. Its literacy rate of 97.6 is the highest among the Asian Tigers.

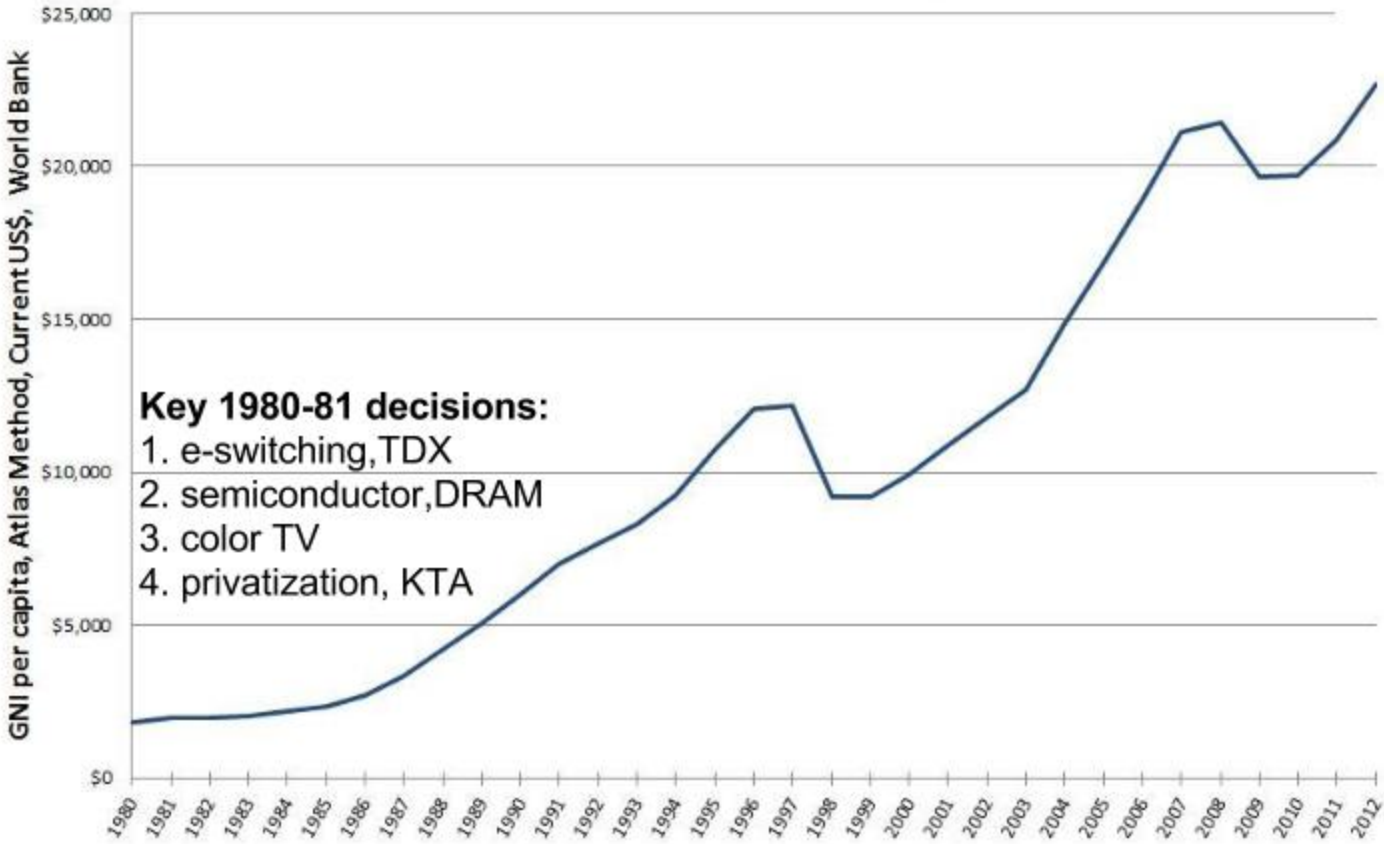
Korea also excels in education. Its overall school enrolment rate (primary, secondary and tertiary) of 90 per cent is the highest among the Asian Tigers. Primary school is compulsory (and free) and soon secondary will be. Korea's tertiary school enrolment is quite high at 68 per cent. Korea has the highest level of secondary school graduates among all high-income Asia-Pacific economies.

Table 1.1: Socio-demographic indicators

Selected socio-economic indicators for Asia-Pacific economies



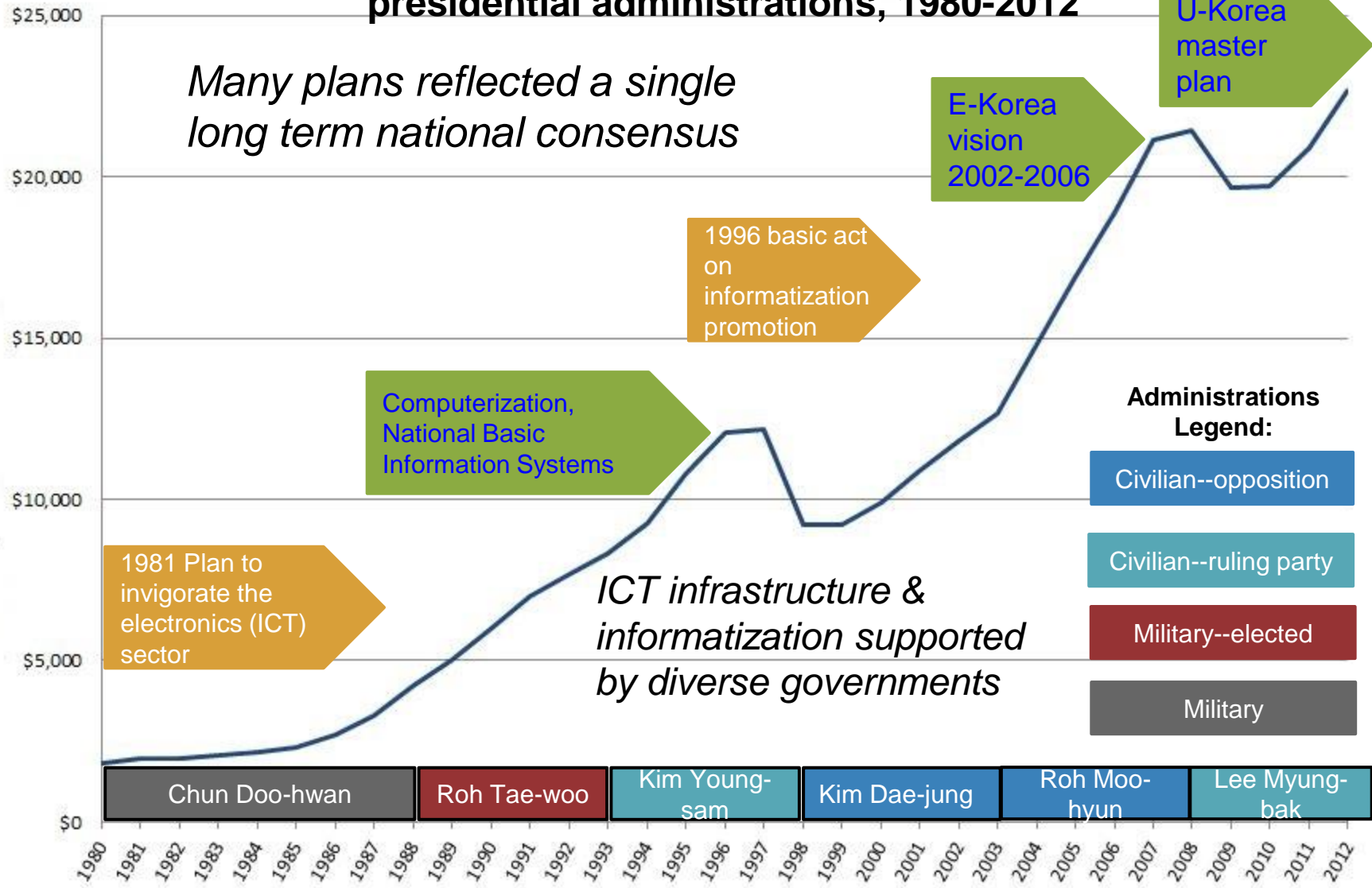
Government leadership: starting with the 1981 "Long Term Plan to Invigorate the Electronics Sector"



- Key 1980-81 decisions:**
- 1. e-switching, TDX
 - 2. semiconductor, DRAM
 - 3. color TV
 - 4. privatization, KTA



Timeline of ICT-sector plans and presidential administrations, 1980-2012



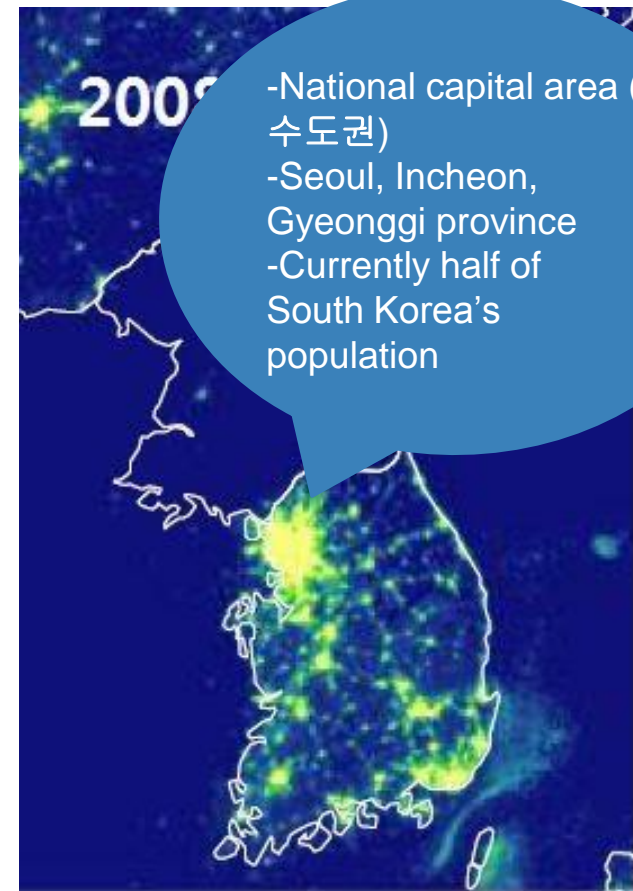
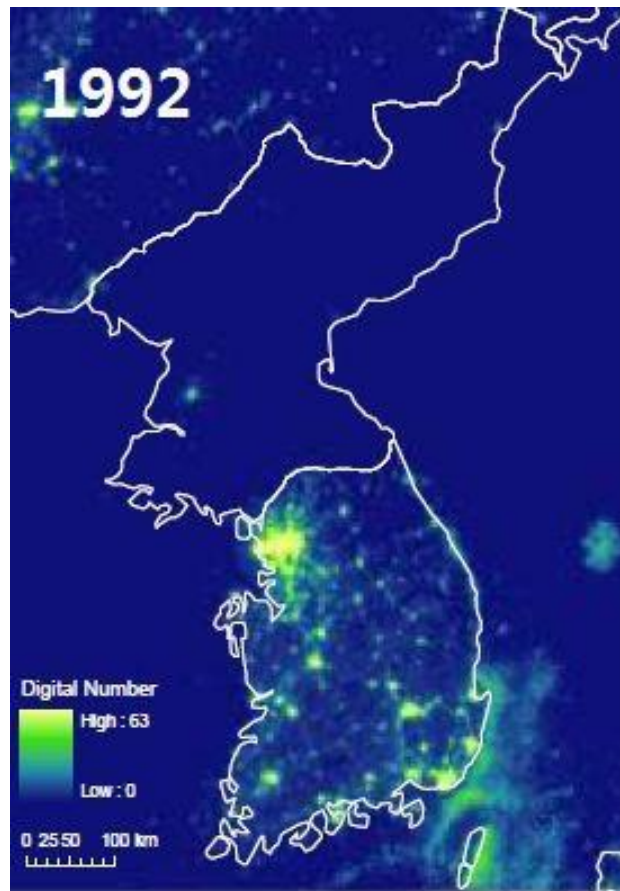
Many plans reflected a single long term national consensus

ICT infrastructure & informatization supported by diverse governments

Administrations Legend:

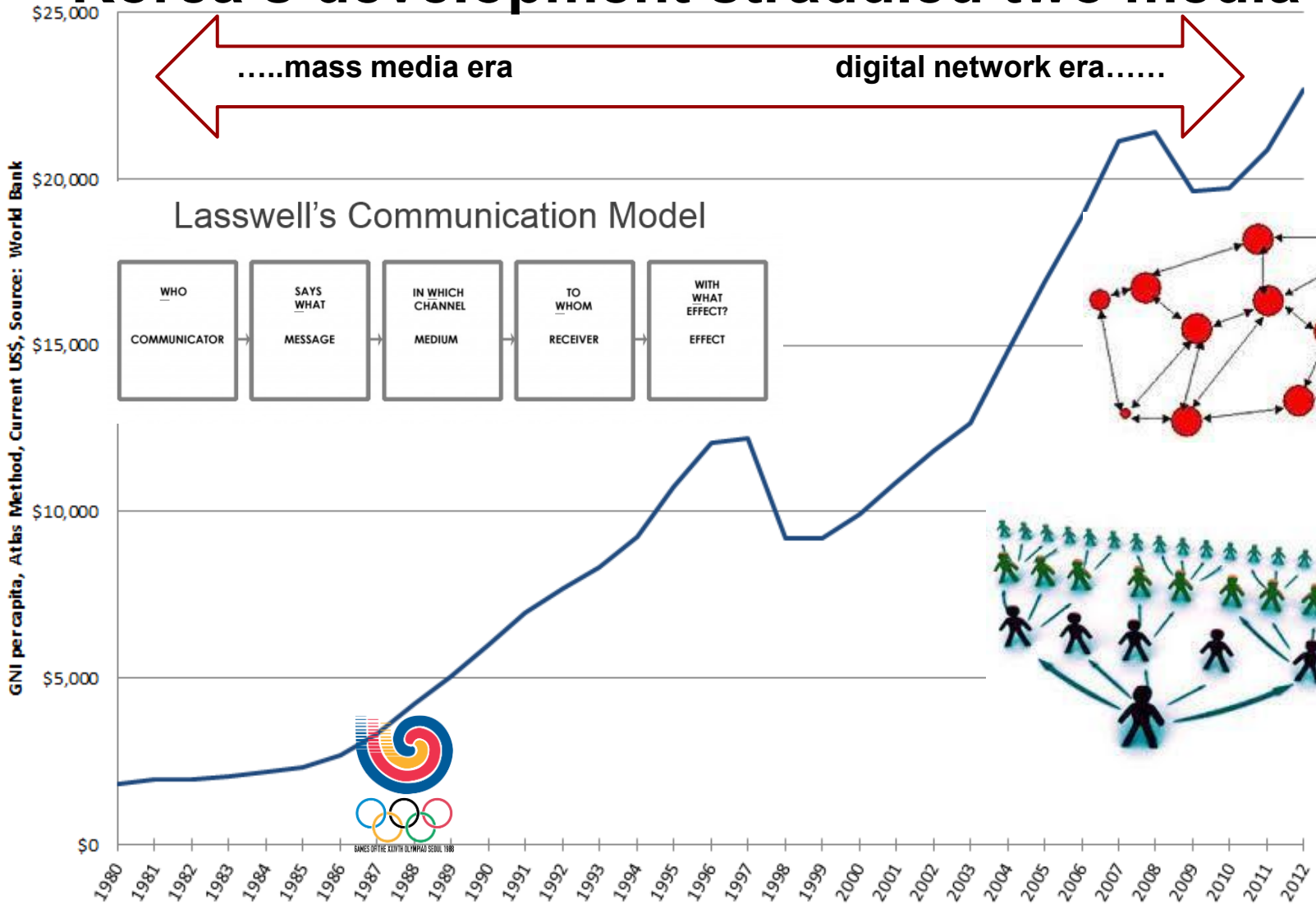
- Civilian--opposition
- Civilian--ruling party
- Military--elected
- Military

II. Political, social, economic changes: rapid urbanization



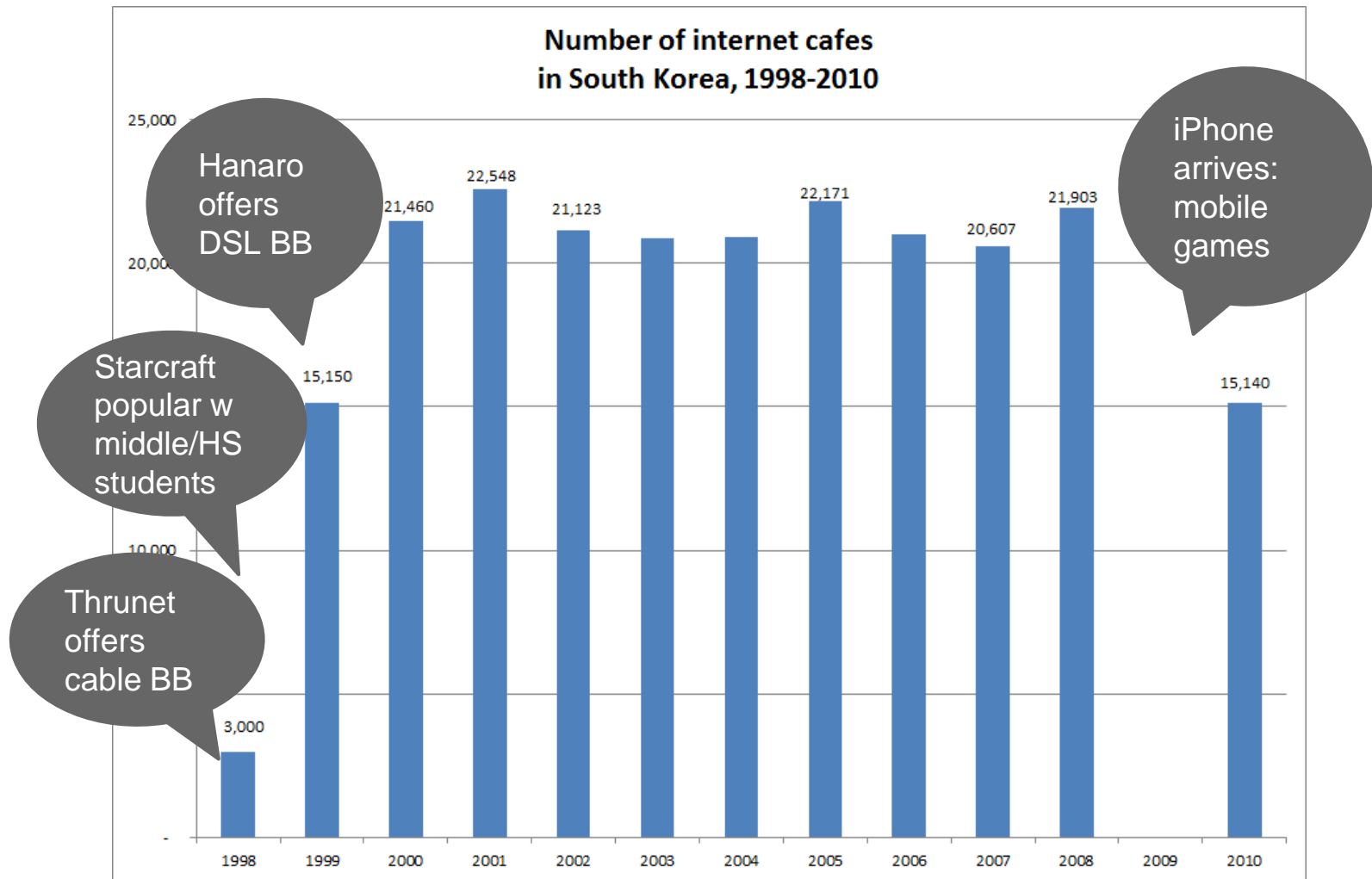
Source: Henderson, Storeygard & Weil, "Measuring Economic Growth from Outer Space," American Economic Review, 2012 102 (2).

Korea's development straddled two media eras



....2018

Broadband, PC Bangs (Rooms) and Online Games





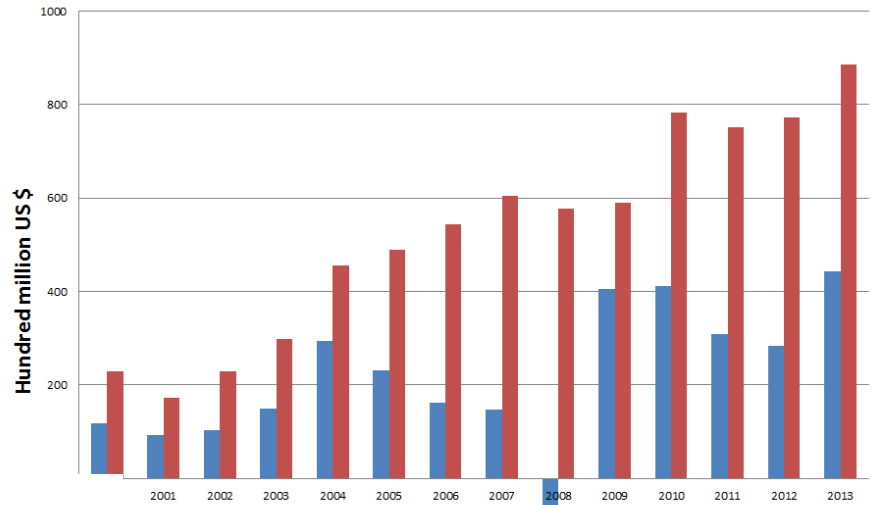
Composition of Korean Exports, 2000-2013

Source: MSIP



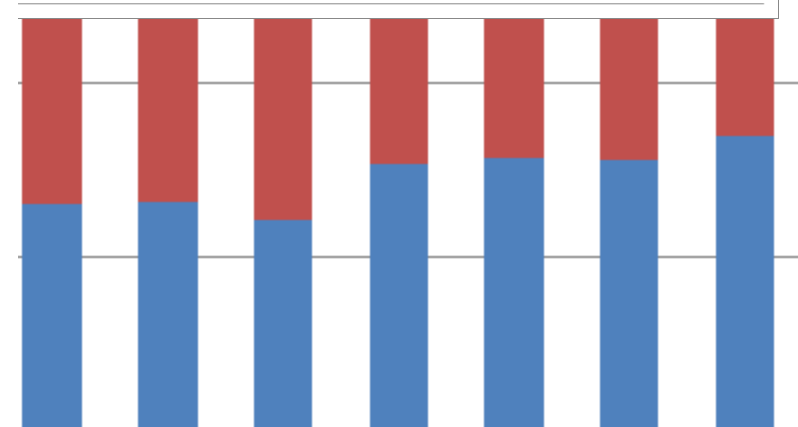
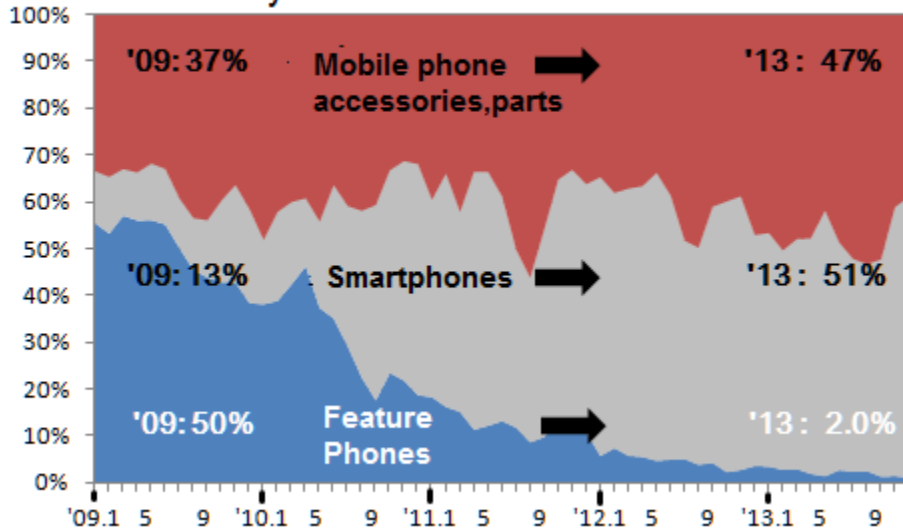
Korea's ICT vs Non-ICT Trade Balance, 2000-2013

Source: MSIP



Korea's mobile phone export trends, January 2009-November 2013

Source: MSIP



Year	2007	2008	2009	2010	2011	2012	2013
Feature Phones (Billion US \$)	1301.0	1311.6	1209.5	1539.4	1566.2	1552.4	1694.2
Mobile phone accessories, parts (Billion US \$)	2413.9	2908.5	2425.8	3124.4	3985.9	3926.3	3903.0

III. Korea's vision of the “creative economy”

- Preceded by a massive 2008 restructuring by the Lee Myung-bak administration which:
 - Removed the KBC and established the Korea Communications Commission
 - Eliminated both the Ministry of Science and Technology, and the Ministry of Information and Communications
- The restructuring triggered a 5-year long public debate: one major theme was the need for a “control tower” to guide ICT sector policy



투데이 핫이슈

前아나운서 김경란, 한국엔 "영어학원 필요없다!" 충격!

그동안 영어학원의 전유물로 여겨졌던 영어회화의 장벽이 무너지며 학원생들의 이탈로까지 이어지고 있어 학원가 일대에 비상이 걸렸다. 굳이 학원을 가지 않아도 1:1 원어민 영어과외를 받는 듯한 효과를 느낄 수 있는 영어회화학습기의 돌풍 때문이다. 그 중에서도 '뇌새김토크'의 돌풍이 두드러지고 있는데 아나운서 ...

INTERPARK Book

* 대한민국이 사랑한 소설가
은희경 신작소설
...단 하나의 눈송이
상세정보 >

- 대명콘도 "파격분양" 전격시행 선착순한정
- 의사타 고혈압, 당뇨 병원가지마세요
- 손범수 "암보험" 좋다더니 생활비 지급! '대박'
- "환상몸매 전지현" 뱃살 때문에 결국.. 충격!
- 치매부모 모시던 40대 김모씨 결국엔
- 이번주 594회 '로또' 절대 하지마세요!!
- "유경" 초등3학년 여아, 가슴커지고 초경시작?

1위 | 2014 | EBS와 함께하는 공인중개사

공인중개사 1위 기초공략 SET

0원

220,000원 → 0원

유료강의 0원에 받기 go

영리모형 부동산투자교육 센터 | 서울특별시 강남구 테헤란로 15길 11 | 2014년 4월 13일

- 23억 벌고 쉬러갑니다! 주식 고수급 "화제"
- 회비 1억원도 아깝지 않은 종목 추천 서비스

Ministerial IT industry policy enforcement

Division	Details
Knowledge Economy Ministry	뉴IT정책 세부 진행방안 마련, 산업 적용 추진 소프트웨어 산업 활성화로 전통산업 IT화 촉진
KCC	차세대 IT산업 정책비전 제시, R&D 지원전략 마련 성장동력 갖춘 IT생태계 조성전략 마련(상반기 중 TF구성)
Ministry of S,C,T	종합 콘텐츠 산업 활성화 전략 마련 법정부 차원 콘텐츠 종합전략 추진
Future Planning Committee	IT산업 육성 종합정책 마련(연내 확정 목표)

...but worry that "with too many sailors the ship"



장범준-송지수

상근이

보니 뭘가.. '영약'

- 은밀부위 터치 아빠, "중학교 졸업할 때까지 만질것"
- 팬티만 입고 맥도날드 들어온 女, '웃입'이라 하자..
- 감기걸려 병원 갔더니 속옷에 손넣고.. '황당'
- 필리핀 자유부인, 기러기 엄마들의 실체 '충격'
- "벗으면 돈 더 쫄게" 생활고에 시달린 여고생 끝내..
- 폐지수거 노인, 여중생에 야한농담 했다가..
- 구강청결제, 하루 3번 이상 사용시 건강 위험↑

기술(IT) 업계에 화색이 돌고 있다. 정부 주요 산업 활성화 정책을 마련한다며 업계 전문가 의견을 국하고 기술개발(R&D) 예산을 확보하

All candidates in Dec. 2012 presidential election pledged change

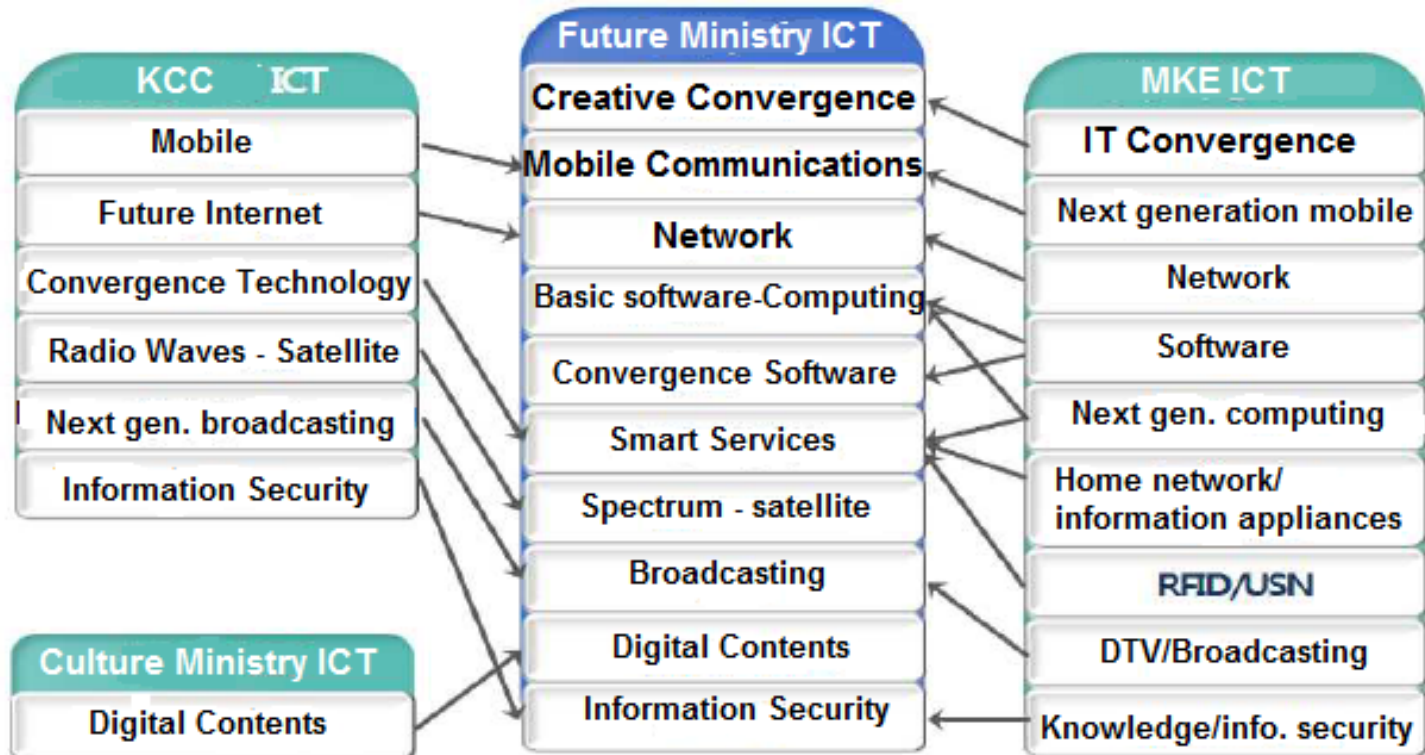
- The Park Geun-hye administration focused on the “creative economy” and launched a new Ministry
 - 미래 Future
 - 창조 Creation (to create)
 - 과학 Science
 - 부 Ministry

President Park at the WEF in Davos, January 2014



Consolidation of ICT industrial policy in the “Future” Ministry

ICT R&D System Reorganization



Source: MSIP

Elements of the “creative economy”

- **Education**
- **Government Leadership, Planning**
- **Public-private partnership**

Minister Oh, Myung, reflecting on nearly 8 years with the MOC in the 1980s: “I never saw telecommunications development as something the Ministry alone could do. Instead, I thought it was only possible in collaboration with business.”

Elements of the creative economy

- **Broad understanding of digital convergence**

"As one who studied electronic engineering in college, I hold dear the belief that science and technology are the key to unlocking a nation's advancement. This is why I established the Ministry of Science, ICT and Future Planning early in my presidency and have been highlighting the importance of building a creative economy." President Park Geun-hye, Dresden, March 2014

- **Creativity is akin to innovation**

Strategy for future development of mobile communications industry

Source: MSIP news release, Jan. 22, 2014



Vision

The World's Most Advanced 5G Mobile Powerhouse

--The wonderful world we dream of, realizing 5G as a prized future possession--

TARGET

By 2020

World's best mobile communications
(Terminals #1, Equipment 20%)



#1 in competitive patented international standards



Jobs
Create 160,000
(580,000 by 2026)



