South Korea
Information and Communication Industry

Compiled by:

Swiss Business Hub Korea

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Korea's ICT industry is divided into the ICT equipment, telecommunications services and software industries. ICT equipment sector is the most significant in terms of production, accounting for more than two thirds of the industry. The wired and wireless telecommunications technologies form the backbone of today's knowledge and information society in Korea. Korea has established itself as a global ICT powerhouse by leading the development of the ICT-based society. According to the Bank of Korea, about 30 to 40% of Korea's total GDP growth is contributed by the ICT industry. Indeed, ICT has been a major pillar of Korean economy and has helped elevate the country as one of the leading countries in today's global economy since 1990s.

The problems of the ICT industry loom large because the country's telecommunication infrastructure is not fully utilized. Despite the implementation of e-Government projects aimed at building a web-based government system and the fact that Korea's high-speed internet penetration rate is the highest among the world, OECD ranked Korea 15th among the 27 OECD countries in terms of the e-readiness rankings. The growth of ICT industry has been far concentrated on the hardware sector, which focuses on expanding wired and wireless telecommunication network penetration rather than the software sector, which creates innovative applications and value-added services.

<Korea, IT sector>

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
IT market	12,720.0	13,737.6	14,561.9	15,144.3	16,053.0	16,855.6	18,035.5	19,478.4	20,647.1	22,092.4
IT market as % GDP	1.43	1.42	1.79	1.63	1.71	1.71	1.47	1.41	1.40	1.40
Hardware (computer market sales)	3,400.00	3,655.55	3,765.22	3,840.52	4,141.67	4,254.95	4,451.68	4,697.78	4,862.15	5,121.82
Services	5,200.00	5,521.21	5,841.28	6,021.40	6,311.97	6,677.27	7,198.27	7,832.44	8,364.65	9,017.30
Software	4,120.00	4,560.84	4,955.35	5,282.41	5,599.35	5,923.41	6,385.59	6,948.16	7,420.28	7,953.26
PCs (including notebooks)	2,720.00	2,887.89	3,012.18	3,110.82	3,354.75	3,455.02	3,650.38	3,889.77	4,025.86	4,251.11
Servers	306.00	329.00	338.87	345.65	372.75	382.95	400.65	422.80	437.59	460.96

(source: BMI report – South Korea Information Technology Report Q1, 2011)

1. Hardware

Korea's PC market will be worth around USD 3.5 billion in 2011, Business Monitor International (BMI), Hong Kong based market research company reported. Total PC revenues including note-books and desktops are forecast to rise to USD 4.3 billion in 2015 at a compound annual growth rate (CAGR) of 5%. The desktop market is satuated and will decline at a CAGR of about 1.4%, with the desktop share of the overall PC market value falling below 50%. The average price of laptop in Kore-an market has fallen below USD600. Consumers have appeared willing to spend on upgrades. Sales in this segment grew at a high single-digit rate in 2009 and were expected to grow at a 2010-1014 CAGR of around 6%. Notebook shipments were estimated at around 2.4 million units in 2009. Tablet notebooks also arrived on Korean market in 2010, spearheaded by Apple's iPad. In July 2010, Ko-rea's biggest wireless operator SK Telecom was reported to be in talks with Apple to offer the iPad.
Local producers Samsung and LG are the leading players in Korean PC market, with a combined market share in the region of more than 50%, leaving international rivals such as Dell and Asusteck trailing. The leading US vendor, HP, is to have around 10% share, similar to that of another Korean market rival, Trigem computer. HP is the leader in the printers and accessories segment and has about a 25% overall share of the computer and peripherals market.

<Major Statistics of the Korean Communications Equipment Industry, 2009>
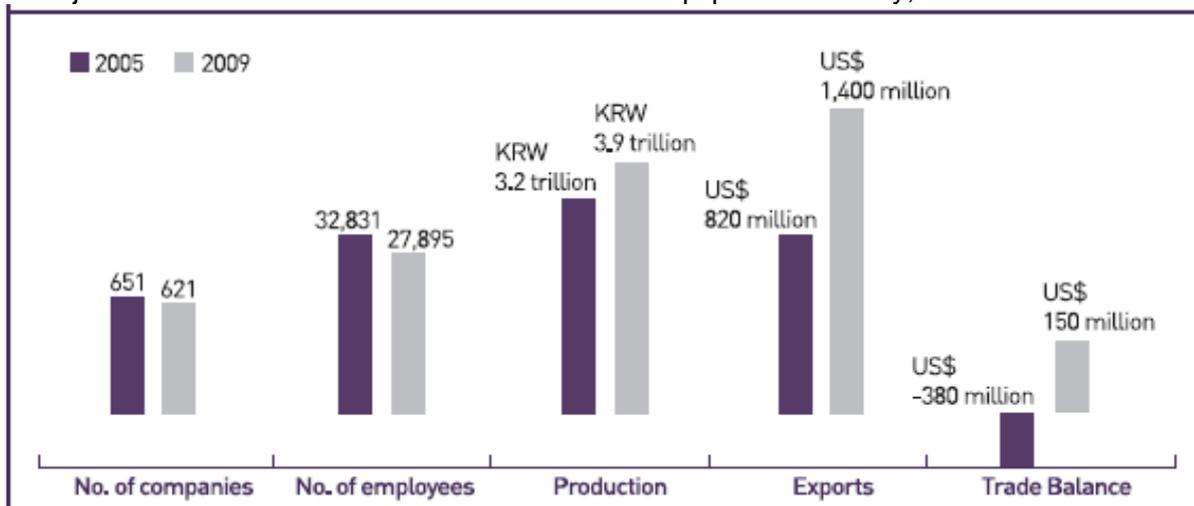
(source: NSO, KAIT, KITA)

< Export and Import Trends of the Korean Communications Equipment Industry >
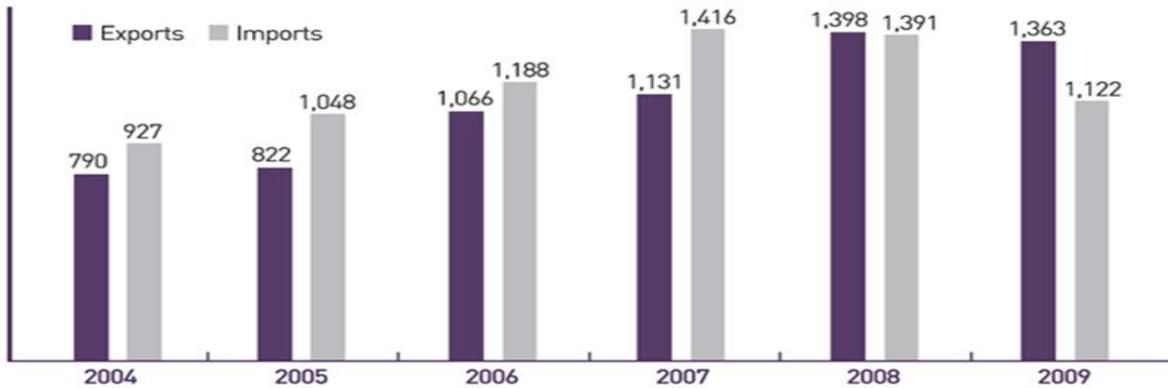
(source: KITA)

2. Software

Software is forecast to account for about 35%of the domestic IT market in 2011, with estimated spending of USD 5.9 billion. As the market focus moves from hardware to services and solutions, the share of the market accounted for by software is expected to rise 39% by 2015 as enterprises seek greater leverage from their investments. This will make software the fastest-growing segment of IT market in Korea. The trend in South Korean software market is towards specialized vertical specific application packages for industries such as auto, pharmaceutical, financial services and healthcare.

New cloud computing offerings and increase competition in this segment are expected to fuel further demand from end-users to utilize this technology. In 2011, telecoms operators such as KT are expected to move aggressively into the cloud services area. Korean businesses will look to cloud computing to boost efficiency and increase flexibility of response to customer needs. Large businesses are most likely to put IT applications such as mail, phone systems and document management into the cloud. However, enterprises applications that require a high level of customization, or which are subject to regulatory or data-sensitivity constraints, are more likely to stay on premise. Software spending is seen as rising at a CAGR of 7% to around USD 8 billion in 2015. Potential customers range from SMEs to larger companies, and demand was estimated at USD 70-90 billion in 2010, with new licences accounting from around half that total. In March 2010, the government announced that it would launch a renewed campaign against software piracy, with the target of bringing the software piracy rate down to the OECD average by 2012.
Security is another growth area. The Korea Information Security Agency has estimated the domestic information security market, including systems and consulting services, at more than USD 600 million and projected that this will climb to over USD 800 million by 2012. Demand for products such as firewalls, intrusion prevention systems and security management products is often in the USD 60 million range in each case and SaaS(software as a service) model is growing in popularity.

Microsoft has disclosed plans to invest about USD 60 million in Korea over the next three years. MS will spend the money on launching software development centers by Korean companies, distributing MS software development tools to them for free and assisting their development abroad. Recently

MS teamed up with Hyundai Motor Company in opening a research center to develop new IT pro-
ducts and services for automotive applications.

<Korea – Inter-
netusers>

	2007	2008	2009	2010f	2011f	2012f	2013f	2014f
No of Internet Users ('000)	34,820	35,360	36,958	37,163	36,917	36,768	36,371	35,740
No of Internet Users/100 Inhabitants	72.3	73.2	76.3	76.5	75.8	75.2	72.6	71.1
No of Broadband Internet Subscribers ('000)	14,710	15,475	16,349	17,250	18,202	19,129	19,587	19,947
No of Broadband Internet Subscribers/100 Inhabitants	30.6	32.0	33.8	35.5	37.4	39.1	39.1	39.7

(source: BMI report, Q1 2011)

3. Services

IT services are projected to account for about 40% of the domestic IT market in 2010, with the spen-
ding of USD 6.7 billion. The CAGR for the segment is estimated at 8% over the 2011-2015 period.
For many IT services vendors, the Korean market is home to a number of large global IT services
accounts. One potential demand driver will be organizations looking for help in utilizing efficiencies
from cloud computing such as SaaS and Infrastructur-as-a-Service. Particular areas of opportunity
for cloud computing include banking and retailing as organizations in those fields look to save money
on hardware investments. In recent times, traditional IT services providers have faced strong com-
petition for a share of the outsourcing market from IDCs(Internet Data Centers). Korea's IDC sector
has been expanding at a 20% rate, with the size of the market estimated in the USD 600 million
range thanks to aggressive investments in capacity.

The fastest-growing segment of Korean IT services market in the past few years has been IT out-
sourcing, which is expected to grow throughout the forecast period. The current crisis may actually
add to the logic of outsourcing non-core functions, as companies will be less willing to spend on in-
house IT capabilities. Outsourcing has become a significant factor and was estimated to account for
up to 24% of IT services spending, or about USD 1.2 billion in 2010. Software development outsour-
cing is another service that is growing in popularity. As the global outsourcing business shifts from
cost-saving to capacity building, to capacity building, and from basic development to higher value-
added areas, South Korea is hoping to capture a larger share of the global market. Government
agencies have encouraged Korean companies to develop their own global software outsourcing mo-
del.

<Outlook of the Korean Mobile Communications Services Market>

		2007	2009	2010	2012	2014	CAGR (2007-2010)
Sales	Mobile communications	16,053	17,272	17,283	17,976	18,313	1.5
	(Voice)	12,564	13,377	13,046	12,726	11,841	-3.0
	(Data)	3,489 (21.7)	3,895 (22.6)	4,237 (24.5)	5,251 (29.2)	6,472 (35.3)	13.5
No. of Subscribers	Mobile communications	43,498	48,722	50,963	54,225	56,636	3.8
	WiBro	-	306	546	1,206	2,166	63.1

(unit: USD Mil, 1000 persons, %)   (source: OVUM, Mobile regional and country forecast, 2009)

4. Industry developments
    - Korea announced that it spent USD 224.5 million in preparation for the launch of fully-fledged cloud computing services in 2010. The funds will be used to develop technology and build infrastructure required to support the service. According to MKE, around 27% of the fund will come from the government, with the rest coming from private companies such as LG CNS.
    - Smartphone market take-off has implications for netbook demand.
    - Korea plans to invest USD 341.1 billion by 2013 to help develop the domestic software industry. In March 2010, the government announced that it would spend USD 27.4 million 2010 on support for software training programme that will aim to produce more software entrepreneurs. In Feb, 2010, MKE announced the plan, which will see the training of 35,000 IT workers and 4,000 high-grade experts, according to the ministry's target.
    - Korean government has set a target for the country to achieve annual electronics export of USD 300 billion by 2015 with the semiconductor industry playing a key part. MKE plans to make Korea a regional R&D hub for the chip-designing segment, which is currently dominated by Samsung. Memory chips account for about 90% of Korea's semiconductor production, the reverse of situation in US, but the collapse in NAND and DRAM prices and stagnant revenues since 2001 have added impetus to the government's efforts to diversify the country's product mix.

Development Trends of Korean Networks
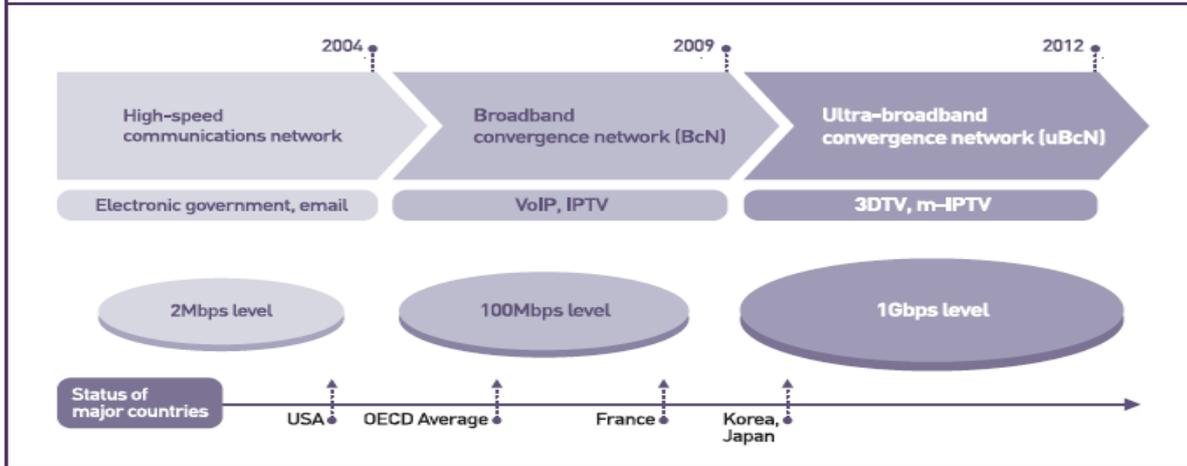
< The Korean Government's Five-Year Investment Plan by IT Sector (2009-2013)>
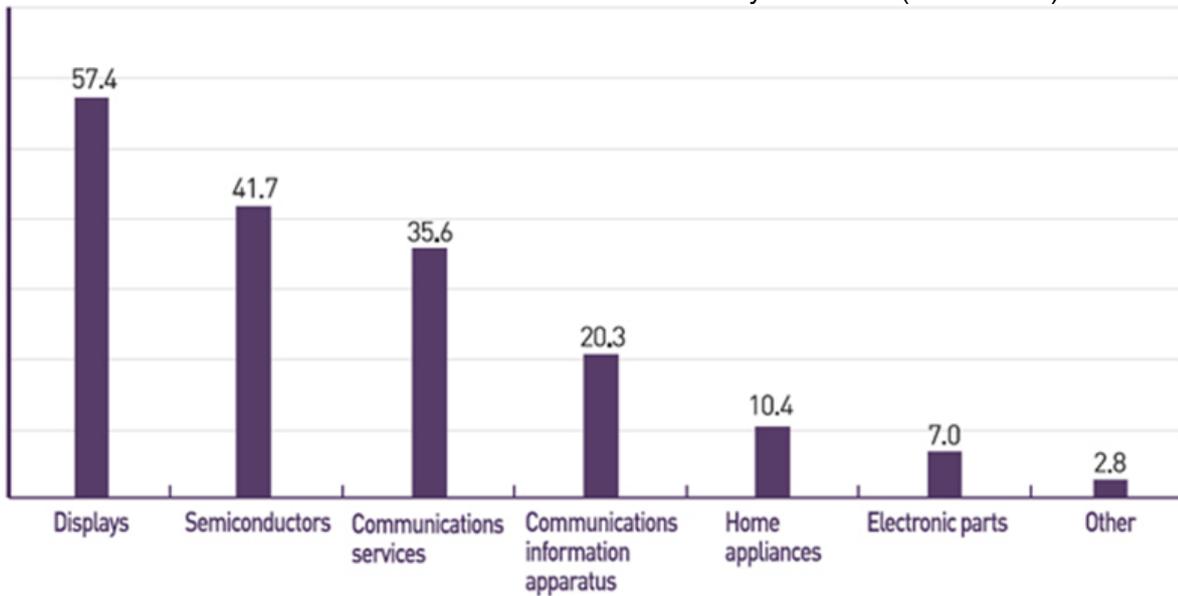
(source: KCC, 'Five Future Strategies for IT Korea', 2009)

<Clusters of the Korean Communications Apparatus Manufactures>

<Handsets and parts>
- Pyeongtaek [LG Electronics)
- Gimpo [Pantech affiliates]

<Communications equipment>
- Seongnam, Seoul, Anyang, etc..

<Handsets and parts>
- Gumi [Samsung Electronics]
- Daegu [Parts, Systems]

<Global mobile cluster>
[Daegu City and N. Gyeongsang Province

5. Major Korean Communications Equipment Manufacturers (2009)

Company name	Sales (KRW million)	Main items	Website address	No. of employees	Location
Samsung Electronics	89,772,836	Mobile phones, synchronous base stations, router equipment	www.sec.co.kr	88,211	Suwon City, Gyeonggi Province
LG Electronics	30,513,636	Mobile phones, electric switching systems, electrical transmissions	www.lge.co.kr	30,832	Yeongdeungpo-gu, Seoul
LG-Ericsson	742,237	Wire/wireless router equipment, electrical transmissions, PBX, telecom systems, electric switching systems	www.lgericsson.com	1,200	Gangnam-gu, Seoul
SK Telesys	663,121	Optical repeaters, wire/wireless electrical transmissions, mobile communications terminals	www.sktelesys.com	477	Jung-gu, Seoul
Dongwon Systems	379,666	Optical telecom multi-devices, optical subscriber electrical transmissions	www.dongwonsystems.com	639	Anyang City, Gyeonggi Province
Comtec Systems	157,986	Data communications equipment, network solutions	www.comtec.co.kr	218	Yeongdeungpo-gu, Seoul
Dasan Networks	140,681	Metro ethernet switches, routers, network equipment	www.dasannetworks.com	320	Seongnam City, Gyeonggi Province
Peopleworks	122,510	Power amplifiers for mobile telecom, repeaters	www.peopleworks.co.kr	139	Gumi City, N. Gyeongsang Province
Samkwang Industry	118,350	Wireless communications equipment	www.samkwangind.com	250	Gyeongsan City, N. Gyeongsang Province
Ubiquoss	111,396	Wire/wireless communications apparatus	www.ubiquoss.com	185	Gangnam-gu, Seoul
Mercury Corporation	60,726	Switching systems, network equipment, optical cables	www.mercury.co.kr	197	Seo-gu, Incheon City
Yukyung Technologies	57,747	Wire/wireless communications apparatus	www.yutc.co.kr	126	Ansan City, Gyeonggi Province
Solid Technologies	53,518	Optical repeaters, optical/wireless telecom equipment	www.st.co.kr	155	Songpa-gu, Seoul
Samhwa Telecom	50,669	Broadband digital electrical transmissions, BDCS, WDCS, connectors	www.samhwa.net	65	Geumcheon-gu, Seoul
Woorinet	60,098	Optical electrical transmissions, router equipment	www.woori-net.com	93	Yongin City, Gyeonggi Province
Kisan Telecom	60,066	Optical modules, PCS repeaters, WLL systems	www.kisantel.co.kr	125	Songpa-gu, Seoul
Cowaaver	39,737	Optical subscriber network systems, optical electrical transmissions, wire communications equipment	www.cowaaver.co.kr	106	Mapo-gu, Seoul

Company name	Sales (KRW million)	Main items	Website address	No. of employees	Location
Newave	39,502	Power amplifiers, optical transmitters, optical transceivers, network monitors, coaxial transmission systems, head-ends, indoor systems	www.net-wave.co.kr	63	Bucheon City, Gyeonggi Province
Dongyang Telecom	34,133	Ultra high-speed network electrical transmissions, satellite equipment, multimedia equipment, antennae	www.dyt.co.kr	120	Gangseo-gu, Seoul
Youngwoo Telecom	32,753	Optical repeaters, small repeaters	www.ywtc.com	73	Seongnam City, Gyeonggi Province
Telefield	30,857	Ultra-small optical electrical transmissions	www.telefield.com	82	Seongnam City, Gyeonggi Province
Seohwa Inc.	26,561	Mobile phone repeaters	www.seohwa.co.kr	58	Geumcheon-gu, Seoul
Withus	20,968	Low price repeaters, small-size repeaters, integrated repeaters, TS repeaters, mid-size repeaters	www.withus.re.kr	110	Seongnam City, Gyeonggi Province
Innowireless	20,606	Wireless network optimization equipment, integrated testing equipment, measurement system for mobile communications	www.innowireless.co.kr		Seongnam City, Gyeonggi Province
Samji Electronics	19,676	Wire harnesses, repeaters, connectors, frequency filters	www.samji.com	113	Geumcheon-gu, Seoul
SNH	19,216	Optical telecom equipment, network equipment	www.myonh.com	65	Seongnam City, Gyeonggi Province
Samwoo Communications	18,608	Wire telecom equipment (optical electrical transmissions, SkyLife repeaters)	www.samwoo.co.kr	35	Gunpo City, Gyeonggi Province
FO&T Inc.	18,010	Optical communications parts, electrical transmissions, data electrical transmissions, wire/wireless telecom equipment	www.fo-t.com	66	Gunpo City, Gyeonggi Province
Addpac Technology	15,665	ATM routers, VOIP gateway	www.addpac.com	83	Gangnam-gu, Seoul
Newgrid Inc.	10,872	Information communications equipment, wire telecom equipment	www.newgrid.com	86	Yuseong-gu, Daejeon City
Corecess	5,678	Network equipment, switches	www.corecess.com	45	Seongnam City, Gyeonggi Province

(source: Korea Information Service)

6.   Key areas of opportunities for Swiss companies
- Computer software: Green IT services, industry convergence, cloud computing, smart grid, software as a service (Saas), packaged software solutions, digital content for IPTV, mobile applications for smart phones, storage/security technology, business intelligence / enterprise resource management and integration projects
- Broadcasting Programming and Equipment: encoding/multiplexing/modulating equipment, test and measurement equipment, graphic equipment, production equipment, video servers and switchers, content related education, life style, documentary etc.
- Wireless broadband internet equipment and services (WLAN, CDMA): wireless broadband technology and wireless VoIP services, application store content and services for smart phones and tablet PCs, ultra broadband convergence network (UBCN) and 4G technology, IP TV technology 2.0

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