

Is the Inter-Korean Win-Win Cooperation in the IT Sector Possible?

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I. Introduction

At the North-South Summit Meeting slated for in the early October 2007, the information technology (IT) industry in North Korea received much attention from the press. The topics ranged from the availability of mobile phones¹⁾ for the South Korean entourage to the eligibility of IT projects for the Inter-Korean Cooperation Program.²⁾ It's because the IT sector is expected to be productive to create the synergy by combining the capital and technology of the South and the human resources of the North.

North Korea is convinced that high-technology is a key engine for the economic growth as its leader Kim Jong Il observed the economic developments of China during his visit to Shanghai in January 2006. Kim said, "The advancement

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1) In Pyongyang, Northeast Asia Telephone and Telecommunications Co. Ltd. (NEAT&T), a joint venture between Thailand's Loxley Pacific Co. and the state-run Korea Post and Telecommunications Corp., is operating a GSM (Global System for Mobile Communications) network. So GSM-compatible devices enable their users to communicate with other users in South Korea via "roaming" services. The most convenient way of communication is to operate a mobile base station on a truck in the North Korean capital city, through which an ordinary cellphone is connected with an earth station in the South via the satellite "Moogunghwa" in orbit. However, any of such communication methods should be approved by the U.S. government under the Export Administration Regulation with respect to the strategic goods and technologies to be transferred or exported to the alleged terrorist-supporting countries such as North Korea. The Hankyoreh, Sept. 12, 2007. Ultimately, it was decided that the South Korean entourage leased three hundred cellphones from the North Korean Agency.

2) The enhanced inter-Korean cooperation in the IT sector was invariably included in the people-suggested agenda before the North-South Summit Meeting and the election pledges of 2007 Presidential candidates.

of science and technology of the Republic keeping abreast with the times will enhance our politico-military strength, build economic power and guarantee the affluent and civilized life to people.”³⁾ As a result, the Pyongyang regime looks forward to inducing a large-scale economic cooperation and investments from the South Korean government and enterprises into its IT industry, which could be developed in a short period of time with a relatively little capital inflows.⁴⁾

This article will examine the status of the North’s IT industry, which is reportedly worse than expected (II). Then it will scrutinize the laws that regulate IT-related businesses in North Korea (III). In view of the reality that most of communications equipment and devices are categorized as “strategic” goods and technologies, we will consider what kind of track should be taken to achieve the inter-Korean “win-win” cooperation in the future (IV).

II. IT Environment in North Korea

1. Communication Networks

The communication networks in North Korea⁵⁾ lag behind the rest of the world much more than expected. In North Korea, the communication networks are confined to such specific uses as military and industrial purpose, and not regarded as an indispensable part of the infrastructure for economic activities. According to the Korea’s National Intelligence Service and the U.S. CIA World Factbook,⁶⁾ there are about 980 thousand telephone lines in service in North Korea as of 2003. While telephone lines connecting major cities are operated by automatic switching systems, in remote areas, the telephone lines are still operated manually. “Individual” telephones are usually occupied by a limited members of the government and the Labor Party. Ordinary citizens are using “public” phones installed at cooperative farms or factories, and post offices across the country.

3) Kim Jong Il, “Emphasis of Science and Technology is Required to Establish Economic Power,” Rodong Shinmun on Feb. 27, 2007.

4) Park, Jeong-Won, “The Recent Trend of Telecommunications Law of North Korea”[in Korean], *Studies on North Korean Law*, Vol.8, North Korean Law Society, 2005, p.189.

5) North Korea is officially called as the “Democratic People’s Republic of Korea”(DPRK). In this article, it is also called as the “Republic” or simply the “North.”

6) Central Intelligence Agency, *The World Factbook*, 2007.

<<https://www.cia.gov/library/publications/the-world-factbook/geos/kn.html#Comm>>

Digital telephone systems remained at a mere 4.6 percent of the whole telephone systems compared to 65.1 percent for South Korea as of 1996. In general, the economic difficulties since the 1980s have retarded the investment in the telecommunications sector. For example, telephone services could provide only five telephone lines per 100 inhabitants as of 1997 (*cf.* 44.4 lines in South Korea), showing one of the lowest rates of connection in the world.⁷⁾ There are 11 AM radio stations of the Korea Central Broadcasting Station, and four television broadcast stations including the Korea Central Television.

International calls are serviced through the satellite and fiber optic networks⁸⁾ to China, Japan, Singapore and Russia. Other countries may be connected via such directly-linked countries. Mobile phone networks of GSM have been built in major cities such as Pyongyang, Rasun and Wonsan, but are used exclusively by some foreigners stationed to North Korea and a few high-ranking government and party officials.⁹⁾ Fax lines are reportedly used up to three thousand lines, off limit to ordinary citizens.

The Internet communications are nearly impossible in North Korea¹⁰⁾ which prevents ordinary people from access to such an open network for fear of free flow of information. However, the Pyongyang regime has allowed the expansion of fiber optic cables connecting Dandong in China and Shinuiju to Pyongyang.¹¹⁾

Even though North Korea is promoting science and technology, the overall IT services are inferior and insufficient to the expectation of common people. What has caused such a undesirable situation? Is it the inappropriate IT policy-making of the socialist government? Is it because of incomplete IT law, or poor economic

7) Choi, Ki-Cheol, "The Facts and Prospects for Telecommunication Industry in North Korea," Symposium on the Inter-Korean Cooperation regarding IT Technology hosted by the Korea Communication Society at Seoul, March 22-23, 2001.

8) In the 1990s, the United Nations Development Program (UNDP) supported North Korea to install a fiber optic network linking Pyongyang and major cities. It could establish the physical basis for the automation and digitalization of telephone systems and the Internet communications. *Id.*

9) Recently many mobile phones are smuggled across the border from China, and there is no problem in communicating with users in China along the North Korean border zone. But it is rumored that unauthorized possession of a mobile phone is strictly prohibited, and subject to capital punishment since the explosion on a train at Yongcheon Station in June 2004, which was viewed as an assassination attempt on Kim Jong Il.

10) In 1993, North Korea completed successfully the Internet communications test with Australia. Currently, it is reported the Internet link is carried out by means of telephone modem in Pyongyang.

11) Digital Times, "The Current Status of North Korea's IT Industry," Aug. 14, 2007.

conditions? These questions will be analyzed in the following.

2. IT Policy of North Korea

First of all, the IT policy in question has two facets: One is governmental promotion of science and technology, and another is the necessity of government control of ideas by means of restricted communication.

So far, the North Korean regime has been careful of terms by avoiding "reform"(改革) and "opening"(開放) of the nation¹²⁾ lest it should be regarded as same to Russia, China or other Eastern European countries. The joint New Year Editorial of 2000 emphasized that science and technology should make one of three tiers along with the ideology of communism and the arms for the establishment of the "Strong Big Power."¹³⁾ It means science and technology are the basis of economic construction. North Korea is promoting its IT industry to help overcome the economic difficulties and to push the core development strategy of the Republic.¹⁴⁾

North Korea's policy goal is believed to imitate the successful precedent of China and to follow the world-wide industrial development model. First, it comes from the mind-set which could achieve in a practical way the "One-Time Leap" strategy (單番跳躍論).¹⁵⁾

Its strategy is focused on promoting the IT industry while reducing the weight of agriculture and traditional industries. Owing to the limit of available resources, after the development of high-tech industry is completed, enhancing light industry and heavy-chemical industry will follow suit on the basis of IT industry as a springboard.¹⁶⁾

Second, as North Korea suffers from severe energy shortage, it is inevitably

12) Instead of reform and opening, they are using "improvement"(改善) in the economic management and "constructive change"(改建) in the area of science and technologies. Park, *supra* note 4), p.191. After the Summit Meeting at Pyongyang, President Roh of South Korea suggested that South Koreans be careful of using the words - reform and opening.

13) Joint New Year Editorial of Rodong Shinmun, Jan. 1, 2000. This is a very important document which has been reviewed and approved by Kim Jong Il since 1995, and indicating what policies and measures will be taken for the administration of North Korea during the year.

14) Park, *supra* note 4), p.191.

15) Editorial of Rodong Shinmun on Jan. 7, 2001.

16) Park, *supra* note 4), p.192.

desirable to foster the IT industry using less energy and utilizing small group of specialists and a few sophisticated equipment like computer.

Third, the IT industry is highly useful tool for the Pyongyang regime in controlling its citizens and communities' ideas and information in view of other authoritarian governments. The state-controlled communication system is indispensable to the maintenance of the communist regime.¹⁷⁾

Here it is necessary to define the term "communications" in North Korea. Generally speaking, communication ("*tong-shin*" 通信) means news media such as newspaper, broadcasting, magazine, etc. and the dissemination of information collected by such media. It has a different meaning from the communication as defined in the South as a part of SOC. Telecommunication ("*che-shin*" 遞信) means economic activities which serve the overall social process of production and civil life by means of electricity, telephone and postal services.¹⁸⁾

In a broad sense, North Korea's communications and telecommunications are not different from those of market economies in terms of media and contents. However, in North Korea, communications and telecommunications serve not the external economy of SOC facilities enhancing the quality of life and citizens' convenience, but an effective tool to control citizens' idea and political orientation. Accordingly, individual private phones and, in particular, international calls are not allowed except otherwise permitted in special circumstances, and only a "national intercom" cable radio station is allowed to the common people.¹⁹⁾ As a result, communication devices are assessed and prioritized in investment on the ground of contribution to the production effects as a whole rather than the quality of life of citizens.²⁰⁾

North Korea's telecommunication industries consist of electric communications, postal communications and broadcasting. Telecommunications function as a tool to let the mass cultivated in line with the ongoing revolution involving ideology, technology and politico culture. In reality, telecommunications are required to propagate the policy platforms of the Labor Party and convey the Kim Il Sung's

17) *Id.*, pp.192-193.

18) Koh, Kyung-Min, *North Korea's IT Strategy: IT Industry, e-Government and the Internet*, Communication Books, 2003, pp.79-80.

19) Park, *supra* note 4), p.193 and p.195.

20) Nam Sung-Wook, *North Korea's Strategy on IT Industry and "Strong Big Power,"* Hanul Academy, 2003, p.42.

Juche (主體) ideology to the public and Korean people worldwide.²¹⁾

In this context, telecommunications are categorized in the service sector which shall satisfy the communication and broadcasting needs of the Pyongyang regime, support its government to guide efficiently the production and construction activities of the public, and facilitate the co-work of each sector of the nation's economy and between the urban and country inhabitants. Sometimes telecommunications are analogized to the nerve system of the nation linking each other and exchanging information among every walk of life.

3. Telecommunication Agencies

According to a specialist²²⁾ who was engaged in the inter-Korean cooperation projects at SK Telecom, the DPRK Department of Telecommunications (DOT) is in charge of telecommunications, i.e., electric communications, postal communications and broadcasting. At the second level, the Korea Post and Telecommunications Corp. directs the International Telecommunication Center in Pyongyang and 220 telecommunication branches. In the postal communication sector, there are some 1,500 post offices across the country. There are four television broadcast stations such as the Korea Central Television, Mansudae Television, the Korea Educational and Cultural Network promoting learned knowledge on science and technology, and Kaesong Television targeting South Korea.

In this regard, it should be noted that, in addition to DOT, the Labor Party, the National Intelligence Agency, the Department of People Security, etc. are also entitled to supervise the telecommunication affairs. For example, if a citizen wants to make an international call, he has to obtain the approval from the Labor Party as well as the National Intelligence Agency. Even government offices and universities must apply for an approval in writing prior to making an international call or sending a fax message to foreign countries.

21) Park, *supra* note 4), p.194.

22) Mr. Koo Hae-Woo, who worked for the inter-Korean telecommunication projects and authored the report, "North Korea's IT Industry Status Quo and Prospects 2000," retired from SK Telecom, one of the largest private-owned telecommunication companies in South Korea, and now conducts political activities at civic organizations.

III. Communications Law of North Korea

1. Overview

In line with the aforesaid policy goals, science and technology-related matters are provided in the Constitutional Law and other laws and regulations.²³⁾ Undoubtedly, there are a number of differences in the specific provisions and their effects.²⁴⁾

First, the Constitutional Law²⁵⁾ stresses the importance of science and technology as follows:

i. The Republic shall strive to achieve the complete victory of socialism in the northern half of Korea by strengthening the people's power and vigorously performing the three revolutions – ideological, cultural and technical (Art. 9).

ii. The State shall enhance the ideological consciousness and the technical and cultural level of the peasants . . . (Art. 23).

iii. Bearing in mind that the technical revolution is vital to the development of the socialist economy, the State shall perform all economic activities by giving top priority to solving the problem of technical development, push vigorously ahead with a mass technical revolution movement by accelerating scientific and technical development and the technical innovation of the national economy . . . (Art. 27).

iv. The State shall give precedence to public education and the training of cadres for the nation and combine general education with technological education, and education with productive labor (Art. 44). Also, the State shall train competent technicians and experts by enhancing the regular educational system as well as different forms of study while working, and by improving the scientific and theoretical levels of technical education on social science and basic science (Art. 46).

v. The State shall establish *Juche* in scientific research, introduce advanced science and technology in every possible way, open up new areas of science and technology and raise the country's science and technology to the world level (Art.

23) See *North Korean Laws and Regulations under Kim Jong Il* compiled and published by the North Korean Law Society, 2006.

24) This part relies largely on the North Korean IT laws compiled by the North Korean Law Society referred to *supra* note 23) and the article of Prof. Park referred to *supra* note 4).

25) The English texts of North Korea's Constitutional Law and other laws are available at <<http://www.loc.gov/law/guide/northkorea.html>>

50). The State shall draw up a proper plan for scientific research work, consolidate creative cooperation between scientists, specialists and producer masses (Art. 51).

vi. The State shall ensure citizens to be free to engage in scientific, literary and artistic pursuits, grant benefits to inventors and innovators, and protect copyright and patent rights by law (Art. 74).

Second, the IT-related provisions are found scattered in the laws concerning the foreign investment and the special economic zone.

The Foreign Investment Act ("FIA") ensures the systemic encouragement and preferential treatment of the high-technology and telecommunication sector. For example, the State particularly encourages investment in sectors that require high and modern technology, . . . and the sectors of scientific research and technology development (FIA Art. 7). Those foreign-invested enterprises that operate in the sectors stipulated in the previous article shall receive preferential treatment, including the reduction of and exemption from income and other taxes, favourable conditions for land use, and the preferential supply of bank loans (FIA Art. 8).

On the contrary, investment in those projects . . . which are technically obsolete and harmful to the environment is prohibited or restricted (FIA Art. 11).

Similar provisions are also found in the Equity Joint Venture Act, the Contractual Joint Venture Act and the Foreign-owned Enterprise Act, etc.²⁶⁾

In 2002, North Korea designated special economic zones, modeled after those in China, at Mt. Geumgang, Sinuiju and Gaeseong (Kaesong) in addition to the RaSun Free Trade Zone established in 1991. In accordance with the relevant law regulating such special economic zones, the North Korean Authority is pursuing a master plan to make those special zones a center inducing foreign capital, promoting exports and importing high-technologies from South Korea and China, thus facilitating the economic development of the whole nation.²⁷⁾

26) Park, Whon-II, "Current Status and Future Prospect for Foreign Investment in North Korea," *Studies on North Korean Law* Vol. 9, North Korean Law Society, 2006.

27) Recently, the Korea Institute for International Economic Policy, a government think tank, released a report that, after the Summit Meeting, the Pyongyang regime will probably designate additional economic zone exclusively for IT industries from the South among the candidate cities including Pyongyang, Nampo and Pyongsung. Yonhap News, "Special Zone Likely to be Expanded after Summit," Sep. 17, 2007.

2. IT-related Laws

As explained before, North Korea's IT-related laws consist of two sectors concerning communications and telecommunications. What is of utmost interest among the IT-related laws are the Computer Software Protection Act of 2003 and the Software Industry Promotion Act of 2004.

A. Telecommunications Act

The Telecommunications Act was adopted by the standing committee of the Supreme People's Assembly²⁸⁾ on February 5, 1997 (Decision No. 82), and finally revised and supplemented by the standing committee in September 27, 2001. The Act contains six chapters and 52 articles, whose gist is summarized as follows:

(1) Chapter 1 is regarding basic and general provisions.

The purpose of this Act is set forth to regulate and put in order the telecommunications sector, thus ensuring the proper operation of electric communications, postal communications and broadcasting (Art. 1). Recognizing that telecommunications function as a commanding tool to guide the nation in an integrated manner, and serves the independent and creative life of citizens, the State shall have the exclusive ownership of the telecommunication agencies and enterprises (Art. 2).

The electric communications are basic instruments for modern communications. So the State shall be liable to modernize wired or wireless telephone and telex, fax, etc. and to augment the communication capability (Art. 4). The facilities for postal communications and broadcasting are considered important national properties. The State should guide the citizenship to respect and protect the telecommunications facilities by disseminating scientific knowledge and enhancing socialist patriotic culture (Art. 7). In the telecommunications sector, the State is required to have a positive posture in building up the exchange and cooperation programs with the advanced countries (Art. 10).

28) The Supreme People's Assembly is the parliament of North Korea. It consists of 687 members, who are popularly elected to serve five year terms. During the recess, the standing committee functions in its place. So it is the *de jure* highest organ of state power. The chairman of the Presidium of the Supreme People's Assembly represents the state.

(2) Chapter 2 focuses on the electric communications.

The telecommunication agencies and enterprises should ensure the national commanding communications, industrial-purpose communications and citizens' communications while the national commanding communications be treated as top priority (Art. 11). The Central Telecommunication Agency and lower level agencies are tasked with establishing and implementing present and future plans to enhance the electric telecommunication capability to satisfy the increasing needs for telephone and telecommunications subject to the approval of the Cabinet (Art. 12). In this regard, these agencies must make efforts to improve electric communication facilities, and guarantee the needs and quality of their services (Arts. 13-16). The public agencies, enterprises, associations and citizens are all required to use the electric communication facilities in a prescribed manner and to preserve the national secrets when using the facilities (Arts. 17, 18).

(3) Chapter 3 regulates the postal communications.

The postal communication should serve the convenience of citizens' life. Therefore, the telecommunication agencies and enterprises should handle letters, telegrams, parcels and periodicals in a reasonable manner (Art. 19). Also telecommunication agencies and enterprises are responsible for the expansion of postal services by relocating post offices and branches in view of urban and country conditions, and the automation of mail processing, and the gradual increase in the use of e-post (Arts. 20, 21).

The telecommunication agencies and transportation agencies are jointly tasked with expanding the mailing equipment to railroad, trucks, airplanes, etc. to forward the mail in time (Art. 23). Railroad stations, harbors and airports are to be equipped with mail processing warehouses and mailing routes, and provide preferential pass to mail transportation (Art. 25). The telecommunication agencies and enterprises must manage international postal services, and satisfy the increasing needs for international postal service by modernizing the international mailing system and equipment (Art. 28).

(4) Chapter 4 is with respect to the operation of broadcasting facilities.

For the efficient operation of broadcasting facilities, relevant telecommunication agencies and enterprises are required to maintain the facilities in a proper manner,

adopt high-technology and methodology in broadcasting, and improve the output, frequencies and quality of broadcasting (Arts. 30, 31).

Moreover, television broadcasting are to be carried out based upon an appropriate TV educational broadcasting plan and other systems (Art. 32). Any agency, enterprise and association which operates wired broadcasting facilities is required to relay the pre-scheduled programs to the listeners, and keep the radio schedule (Art. 33).

In order to facilitate the national mobilization program, the telecommunication agencies and relevant entities must establish the alarm and warning broadcasting system, and test the whole system and equipment on a regular basis (Art. 34).

North Korea has a "national intercom" cable radio station wired throughout the country that is a significant source of information, news and commentary for the average citizen. Therefore, the telecommunication agencies, enterprises and associations must provide wired broadcasting services to residences, work places and public places. When the wired broadcasting equipment is not installed in a residence or a public building, the completion certificate of the structure will be denied (Art. 35).

The representatives of international organizations stationed to the Republic, foreign agencies or enterprises, and foreigners are not allowed to install or operate the equipment for wireless broadcasting and satellite communications (Art. 37). This shows the closed atmosphere and rigidity of the North Korean community.

(5) Chapter 5 ensures the physical and technical basis of telecommunications.

The reinforcement of the physical and technical basis of telecommunications is the precondition for the modernization of telecommunications (Art. 38). Also the build-up and modernization of national commanding telecommunication network and integrated digital communication system is required (Art. 39). The broadcasting equipment and facilities must be sufficient enough for broadcasting frequencies to reach the remotest region of the country (Art. 41). Likewise, the production bases of telecommunications facilities, materials and parts must be well managed and placed in order to produce the objects properly (Art. 42).

To this end, science research institutes and education institutes are mandated to develop telecommunication-related technology and to educate and train technology-specialized human resources (Arts. 43, 44). It is noteworthy that the

construction of telecommunication facilities should be carried out in a manner that is safe to the natural environment and agro- and forest resources. So the completion inspection must be conducted by the relevant agency, or lower-level agency or enterprises under the supervision of such relevant agency (Art. 45).

The right to use telecommunication facilities cannot be transferred to other agencies, enterprises, associations or citizens without the consent of the telecommunication agency (Art. 46). The national planning department, agencies in charge of supplying labor, electricity and raw materials, and banking and financial institutions shall ensure the necessary resources to the telecommunications sector (Art. 47).

(6) Chapter 6 provides for the supervision and control of the telecommunications sector.

The State is ultimately liable for supervising and controlling the operation of telecommunications (Art. 48). Its integrated guidance is conducted by the Central Telecommunication Agency, while the supervision and control of operations is carried out by the first line telecommunication agency and the relevant supervisory agency (Arts. 49, 51).

Also, any agency, enterprise, association or individual that violates any provision of the Telecommunications Act is subject to administrative and/or criminal charges (Art. 52).

B. Computer Software Protection Act

The Computer Software Protection Act ("CSPA") was enacted by the standing committee of the Supreme People's Assembly on June 11, 2003 (Decree No. 3831).

(1) Chapter 1 provides for the basic and general provisions of CSPA.

CSPA identifies its purpose as to regulate and put in order the registration and use of computer software, and to protect the copyright of such software, thus contributing to the development of computer technology (Art. 1).

It requires the State to ensure the principles of science, objectivity and timeliness in the selection of software to be protected and its registration (Art. 2). The State shall encourage the development of software and protect the personal and proprietary right of software (Art. 3). Also the State must enhance the

general interest in the software protection and to enlarge the investments into software (Art. 5), and further to strengthen the exchange and cooperation with the international organizations and foreign countries (Art. 7).

CSPA protects the copyright of software which was developed by a foreign legal entity or individual and has been initially registered in the Republic (Art. 4). International treaties for the protection of software have the same legal effect as CSPA (Art. 6).

(2) Chapter 2 regulates the registration of software and its procedure.

The software must be registered with the Software Registration Office (Art. 8). In order to register, an agency, enterprise, association or individual is required to submit the application form, which contains the title of the software, the name, nationality and address of the applicant and the date of application, to the Software Registration Office with necessary attachment including software media, its outline and instructions (Art. 9).

The Software Registration Office must respond to the application for registration and announce either approval or denial subject to deliberation within three months after the receipt of application form and necessary virus check (Art. 10). The deliberation is conducted by identifying the software developer and confirming its identity or similarity with the existing software, and, in case of adaptation, by determining the probable infringement on the original copyright (Art. 11). The Software Registration Office may demand necessary information from the relevant agency, enterprise, association or individual for its deliberation (Art. 12).

When it gives an approval, the Software Registration Office need only issue the certificate of software copyright to the applicant. But when issuing a denial, it must provide reasoning of denial (Art. 13). The registered software must be notified to the public by the official gazette, but may be kept secret on demand by the State or its copyright holder (Art 14). Anyone dissenting or disagreeing with the Software Registration Office's decision may submit an opinion within six months. The dissent should be processed within two months from its filing with the Software Registration Office (Art. 15).

The Software Registration Office shall maintain the application form and other information, and may allow applicants to peruse the documents. Foreign-made

software not registered with the Software Registration Office cannot be used in the Republic (Arts. 16–18).

(3) Chapter 3 governs the software copyright.

CSPA allows the software copyright holder to be an agency, enterprise, association or individual who develops the software or receives its title (Art. 19). The personal right of software copyright means the right to disclose the software and developer's name, and to keep developer's name, software title and its content from being changed (Art. 20). This right belongs to the developer, and cannot be transferred to others (Art. 21).

Proprietary right of software copyright is defined as the right to copy the software, to demonstrate or distribute it, to make an adaptation of software, to allow its use and collect the charge for its use, to transfer whole or part of software, and to make a claim for damages for the infringement on the copyright (Art. 22).

The ownership of the copyright is held on an individual basis by the very agency, enterprise, association or individual, but, in case of joint development, shared by the joint developers (Art. 24). In case of consigned development, the ownership must be decided by the contract between the concerned parties (Art. 25).

CSPA also allows minors to hold the software copyright, which shall be exercised by his or her parent or guardian (Art. 26). When the software copyright is not succeeded or donated, it divests to the State (Art. 27).

(4) Chapter 4 stipulates the copyright protection.

The period for the protection of the personal right of software copyright is limitless, while that of the proprietary right is 30 years, but may be extended for additional 20 years (Art. 29). An agency, enterprise, association or individual may use the registered software subject to the permission of its copyright holder within the scope of permission (Art. 31).

An agency, enterprise, association or individual who uses the software must pay the charge which the price determining agency sets for its use (Art. 32). Literary and art works may be used for the development and manufacturing of software (Art. 33). Unauthorized use, duplicate, demonstration, distribution or

adaptation of software without the permission of its copyright holder is prohibited. Also, the name of the its developer and the software title cannot be changed. No one should not destroy or remove the technological protection devices (Art. 34). However, its use for the purpose of education, investigation of the law enforcement body or non-profit distribution is allowed for free (Art. 35).

(5) Chapter 5 is regarding the supervision and control of the software protection.

The guidance, supervision and control of software protection is conducted by the Central Software Protection Agency and the relevant supervisory agency. They shall strictly supervise and control any probable infringement on the copyright, the manufacturing, duplication and distribution of indecent and unsocial software and computer viruses (Arts. 37, 39). Any infringement on software copyright results in an appropriate amount of damages, and unlawful profits and related software is subject to confiscation (Art. 40).

Agencies, enterprises, associations or individuals that violate any provision of CSPA are subject to administrative and/or criminal charges (Art. 41). Disputes arising out of the protection of software will be settled by cooperative discussions, but may otherwise be resolved by arbitration or litigation (Art. 42).

C. Software Industry Promotion Act

The Software Industry Promotion Act ("SIPA") was enacted by the standing committee of the Supreme People's Assembly on June 30, 2004 (Decree No. 533).

(1) Chapter 1 provides for the basic and general provisions of SIPA.

The purpose of SIPA is to regulate and put in order the production, inspection and distribution of computer software, thus contributing to the development of software industry (Art. 1). As the software industry is a fundamental part of IT industry to facilitate modernization and informatization of the economy, the State is obliged to contribute to the preferential development of the nation's economy (Art. 2).

The State must ensure the systemic growth of software industry (Art. 3) and reinforce its physical and technological basis (Art. 6). Also the State is liable to inspect and distribute the software in a proper manner (Arts. 4, 5), and further to strengthen the exchange and cooperation with the international organizations and

foreign countries (Art. 7).

(2) Chapter 2 regulates the production of software.

The production of software is subject to the master plan established by the Central Software Industry Agency and the relevant lower-level agencies, enterprises and associations (Art. 8). Based upon the plan, the National Planning Agency and the relevant agencies must make a detailed production plan (Art. 9). Also, the process of production registration and authorized production of universally used software, and the production by order are provided for (Arts. 10-15).

(3) Chapter 3 governs the inspection of software.

The software quality control agency conducts the inspection of software so as to enhance the quality of software (Art. 21). All software is subject to mandatory inspection after completion (Art. 22). SIPA provides detailed inspection procedure and methodology, the functions of inspection agency and the confidentiality of its staff (Arts. 23-28).

(4) Chapter 4 regulates the distribution of software.

The distribution of software is vital to marketing, export/import and information service (Art. 29). The trademark, specification and measurement of software must be correctly disclosed (Art. 30). Only the designated enterprise may sell the software, and any software, which is without production permission or trademark, under development, or not yet inspected, or whose price is not yet set, cannot be sold to others (Arts. 31, 32). The software may be exported after certification, and imported subject to approval of the software industry agency (Arts. 33, 34).

The installation, repair, processing, equipment and system build-up is subject to the approval of the Central Software Industry Agency (Art. 35). In this regard, credit guarantee is applied (Art. 36). The price of software shall be set differently for domestic use and for export (Art. 37).

(5) Chapter 5 ensures the physical and technical basis of software industry.

For the development of software industry, science research institutes, systemic

education and training of software specialists, modernization of software technology and equipment and expansion of software production bases are in great need. In this regard, sufficient provision of fund and communications of related information should be ensured (Arts. 38-44).

(6) Chapter 6 is regarding the supervision and control of the software industry.

The State is liable to formulate the guidance system of the software industry, and strengthen the supervision over it (Art. 45). The integrated guidance and supervision is conducted by the Central Software Industry Agency (Art. 46).

The scientific management, consonance with the planning, supervision and control, inspection of export and import are provided for (Arts. 47-49). In case of illegal sale of software and unauthorized export or import of software, the relevant software and proceeds is subject to confiscation (Art. 50). Any violation of SIPA results in administrative and/or criminal charges (Art. 51).

3. Inter-Korean Cooperation Projects under the North Korean IT Law

Even though there are several IT-related laws in North Korea, it is uncertain for a South Korean businessman could be provided with the copyright protection or advantageous measures for an investor, as explained above. It is because the operation of North Korean laws seems to be quite different from that of South Korea. In the South, the legal framework clearly defines the role and duty of parties including the government, and serves as a good indicator on how legal disputes will be resolved.

On the contrary, in the North, the IT-related laws provide for largely the role of the government in the IT sector, not the relationship between the private parties. For example, the centralized planned economy used to give orders on the production target of software,²⁹⁾ having no leeway to the autonomous and creative work in the private sector. But who can assess the real value of software, and who should compensate the developers of the commercial software which users are reluctant to buy? After all, no one can be sure who will resolve the disputes regarding failed computer systems and unpopular software.

Basically, in view of the closed and rigid socialist regime in the North, the

29) See Article 8 of the Software Industry Promotion Act.

State other than the rule of law has the final say in the allocation of resources, command and control of business, dispute resolution, and so on.³⁰⁾ Furthermore, the North Korean government officials are not familiar with concepts such as free competition, self-autonomy and cooperative partnership as usually seen in the South.

In terms of law, the different legal frameworks and ambiguous provisions frustrate universal application of law. However, the both IT laws - CSPA and SIPA - are deemed in consonant with global standards including the duration of copyright. It is true these laws are somewhat similar to the South Korean laws of the same kind.³¹⁾

IV. Prospects for the Inter-Korean Cooperation

1. The IT Industry Status Quo in North Korea

Despite some hardships ahead, the inter-Korean cooperation in the IT industry sector is looking favorable since high technology rather than large scale investments is necessary. The most promising area is the software industry, which is expected to yield significant synergy by combining the South's technology and capital and the North's human resources. Then it is necessary to look into the IT industry status quo in North Korea before working out some probable win-win projects.

At present, the North's IT industry is at least 20 years behind that of the South.³²⁾ While the hardware sector including semi-conductor has been retarded owing to scant investment and restricted import of advanced technology, the software sector has achieved world class standard of technology such as voice recognition, biometric processing, automatic translation and go (*badug*) software.

In particular, North Korea has chosen the IT industry as a driving force of the "One-Time Leap" strategy. For example, an electronic company under the Department of Electronic Industry has been assembling Pentium IV computers at a

30) Park, *supra* note 4), p.214.

31) Digital Times, "The Current Status of IT Industry in North Korea," by Oh Dong-Hee, Aug. 14, 2007.

32) Chung, Eui-Joon, "Analysis of North Korea's Industries and the Possible Inter-Korean Industrial Cooperation Program 2", *KDB Research Monthly*, March 2006, Korea Development Bank, p.12.

joint venture with a Chinese company since 2003. On-line shopping malls were ready to start business in 2004. But on the road to the full blossom of IT industry, there are many stumbling blocks such as the recognition gap among the leaders of the Party and the armed forces insisting on authoritative communication or commanding tools, and enterprises working for the sake of advanced and globalized technology. And the economic slowdown or retreat has blocked the investments into the IT sector and the growth of domestic market.³³⁾

However, software is vigorously developed by colleges and universities³⁴⁾ such as Kim Il Sung University, Kim Chaek College of Technology, etc. and the National Institute of Science, the Korea Computer Center (KCC) and Pyongyang Information Center. Some of them are assessed as possessing world class expertise.

Since the 1980s North Korea has poured its resources into the development of software industry, which was occasionally encouraged by its top leader Kim Jong Il.³⁵⁾ Also the "Military First" politics (先軍政治) put the top priority on the software development in the military sector.

It is promising that the level of software engineering in North Korea is at a high level with ample software experts.³⁶⁾ Not only university students but also high school students are studying computer programming. A large number of students show brilliant talent in computer technology and robotics.³⁷⁾ It is said that up to 10 thousand students specializing in computer and communications are produced from hundreds of colleges and universities a year. Unfortunately, only 10 percent of young men get a job in the IT industry. For example, KCC, the largest software house in the North, employs more than one thousand computer programmers who are engaged in the development and upgrading of

33) *Id.*

34) Pyongyang Institute of Science and Technology which will open in April 2008 starts the graduate courses including Department of Information and Tele-Communications Engineering. English speaking students graduated from Kim Il Sung University, Kim Chaek College of Technology, College of Computer Technology, etc. will be admitted to the newly established school. DongA.com August 17, 2007.

35) When Kim Jong Il visited a computer research institute, he surprised the people by demonstrating his knowledge on computer and software, and speaking technological terms. Yonhap News, Feb. 26, 2005.

36) Tong-il Shinmun, "[Venture Business in Pyongyang] Superfluous IT Manpower in North Korea," Aug. 21, 2007.

37) Robotic demonstration and tournaments are one of the favorite events of North Korean collegians.

word/documents processors, operating systems, networks managers, numeric controllers, telecommunications and medical software, game and educational programs.

2. Preconditions for the Effective Cooperation

In 2000, Samsung Electronics and KCC established a joint venture computer software development center in Beijing, in which Samsung invested 730 thousand US dollars.³⁸⁾ The joint venture company proved highly successful in developing quality software in document condensing, application of Linux, on-line games using wireless devices, Chinese voice recognition software for cellphones, unified Korean word processor, and so on.

It is important to select an appropriate industrial sector which will be conducive to the inter-Korean cooperation. The first and foremost choice will be the software industry which demands lots of workers with expertise only if sufficient capital and technologies are provided by the South.³⁹⁾ As explained above, roughly 100 thousand people with specialized skill in computers and communications were produced from the North Korean colleges and universities from 1986 to 1999. But only five thousand could find jobs consistent with their specialty. In other words, any enterprise from the South could employ some out of the remaining 90 thousand or more idle workers.⁴⁰⁾ North Korea's educated young men are believed smart and swift to catch state-of-the-art technology, if necessary.⁴¹⁾ In addition, on-line marketing of North Korean goods might be

38) Chosun Ilbo, "Cheers for the successful S/W Cooperation between the North and the South - Opening of Samsung and Chosun Computer Research Center in Beijing," Mar. 23, 2000.

39) The software sector has seen consortia of 25 South Korean software houses which wish to invest in the North, in particular, to establish a software development center in the Gaeseong complex or Pyongyang. Under the "inter-Korean IT cooperation project," the South Korean government is pursuing the promotion of, and assistance to, the inter-Korean joint development of Linux platform, joint manufacturing of digital contents, a supporting center for mobile contents, etc. Digital Times, *supra* note 31).

40) The narrow IT market in the North caused severe difficulty in finding job. For example, IT businesses are numbered up to 250 with the International Telecommunication Center, the Korea Post and Central Telecommunication Corp. and all telephone offices included. But there are only a few software houses including KCC. As a result, the wage level of the IT experts is the lowest in the world compared to their skills, so to speak, one hundredth or thousandth of the average wage for their counterpart in the South. Tong-il Shinmun, *supra* note 36).

41) For example, a series of articles of Tong-il Shinmun introduced "How to succeed in the 133

promising. The exchange of human resources specialized in IT and gradual standardization of the IT industry between the North and the South are desirable.

Second, a proposed inter-Korean project should be carried out within the scope of the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies,⁴²⁾ an arms control convention with 40 participating states led by the United States. The biggest hurdle in the North and South economic cooperation, as witnessed by the proposed use of cellphones at Pyongyang by the South Korea's Presidential entourage,⁴³⁾ is that North Korea remains one of the "terrorist-supporting countries" designated by the U.S. government. The situation would not change insofar as Kim Jong Il insists on his nuclear program. Therefore, until the U.S. government lifts its ban on export of sophisticated equipment and technology, there is no probability of enhanced cooperation between the North and the South at all. The inter-Korean cooperative spirit cannot prevail over the world community's sanction on North Korea.

The U.S. government's designation of "terrorist-supporting countries" also invokes the application of the Export Administration Regulation (EAR Section 6(j)). If any South Korean company exports or transfers the banned goods to the North, it will be subject to harsh sanction under the EAR. It requires the prior approval of the U.S. Department of Commerce (DOC) in case the U.S.-made goods or foreign manufactured products of which more than 10 percent contains U.S.-supplied technology and software are exported to the terrorist-supporting countries⁴⁴⁾ including North Korea. In addition, the United Nations economic sanctions⁴⁵⁾ expanded the contraband list immediately following the nuclear bomb test by North Korea in 2006 to include large-size digital TVs and other luxury

venture business projects and the noteworthy specific investment climate in North Korea."

42) Choi, Seung-Hwan, "Issues of Exporting/Importing North Korean-made Goods and Prospects for the Promotion of Gaeseong Industrial Complex," the 3rd Unification Forum hosted by the Korean People's Unification Movement Headquarters, Sept. 21, 2004.

43) See *supra* note 1).

44) South Korea and the United States entered into the "Korea-U.S. Memorandum on the Protection of Strategic Goods and Technological Data" in September 1987. Based upon this diplomatic commitment, the Korean government established the relevant provisions in the Foreign Trade Act (Art. 21), the Enforcement Decree and its implementing regulation which controls the export and import of strategic items. The Korean government is operating a website <www.yestrade.go.kr> in order to make foreign traders well informed of strategic goods and technologies in question and to avoid unnecessary sanctions.

45) UN Security Council Resolution 1718 on North Korea adopted on October 14, 2006.

goods.

In this context, the S1(Es One), a South Korean security company, successfully obtained the approval from the U.S. DOC when it was going to install the RFID system to automate the customs clearance in the Gaeseong Industrial District in December 2006.⁴⁶⁾ On the other hand, KT Corp., South Korea's largest fixed-line telephone company, opened 300 phone lines between Seoul and Gaeseong in 2005 and expanded to an additional 350 phone lines in 2006. But it failed to launch CDMA networks in 2002 in fear of a possible breach of the Wassenaar Arrangement.

Third, it is hopeful that North Korea will eventually become a member of international community. When the Pyongyang regime dismantles its nuclear program and establishes diplomatic ties with the United States, it will be admitted to the international organizations such as the World Bank and the Asian Development Bank, and eventually the North East Asia Economic Community. So far, there were lot of ups and downs in the road to everlasting peace in the Korean Peninsula.

Fourth, we cannot cease to pay attention to the probable problems raised by the North. For example, software industry demands private creative efforts and investments, but the planned economy goes in the opposite direction. The operation of North Korean laws and regulations is uncertain and the content of lower level regulations unknown outside.⁴⁷⁾ In the long run, the Intranet system for domestic use shall be integrated with the Internet system.⁴⁸⁾

3. Prospects

It's a long way to go to the unification of the two Koreas. But one, two-step approach is absolutely necessary to attain the goal. The inter-Korean projects will accompany the cooperation in the IT sector, as proved by the Mt. Geumgang

46) The U.S. DOC's approval allowed 12 items of hardware and 5 pieces of software to be installed in the Gaeseong district. The RFID system will accelerate the export/import process and ensure the effective control of goods. KDB NEA Center, "Customs Clearance System at Gaeseong District Approved by U.S.," NEA Review No.8, Dec. 2006, p.5.

47) Park, *supra* note 4), p.213.

48) Koh, Kyung-Min, Lee, Hee-Jin and Seung-Kwon Jang, "North Korea's IT Dilemma and Dualist Strategy Cases of Internet Policy and Software Industry Policy"[in Korean], *Informatization Policy* Vol.14 No.4, Winter 2007, p.153.

development project, the aborted light water reactor construction project, etc. We can see the precedent of the unified Germany where the most demanding SOC was telecommunication facilities.

The Inter-Korean Summit agreed in the early October 2007 on the immediate improvement of difficulties in passage, communications and customs clearance procedures at the Gaeseong Complex, and the enhanced cooperation on the military assurance for the regular operation of freight rail services between Gaeseong and Munsan in the South.⁴⁹⁾

First, the enhanced cooperation in the North and South IT industries will pave the way to the restoration of a national homogeneous character and balanced development of the two national economies, and save the cost for the inter-Korean cooperation and unification, and further could accelerate the timetable to the ultimate reunification of the Korean Peninsula.⁵⁰⁾ It is also indispensable in that the South is a world leader in the IT sector, while the North lags far behind.

Second, this diagnosis fits well with North Korea's interest, which has long promoted science and technology, and encouraged the foreign investments into that sector. As explained above, the software industry develops upon well trained human resources only with some capital inflows. Most of all, it will absorb the idle high-class work force.

Third, the advancement in the IT sector surely entails the initiative taking in the pre-occupation of the North Korean market of 22 million people, prior to the advent of the ASEAN-like North East Asian Economic Zone covering the three North East Provinces of China, the Maritime Provinces of Siberia, the North and South Korea, Japan and Mongolia. The IT industry of the Korean Peninsula will make a central axis of the North East Asian Economic Zone.⁵¹⁾

49) Currently, entry to the Gaeseong Complex is only granted several days after it is requested. Cellphones and the Internet are not available in the district. It also takes considerable time to clear customs. The two Korean leaders agreed on the various development projects in west coast areas of the North as a future extension of the Gaeseong Complex. To facilitate the discussion channel between the two Koreas, the Inter-Korean Economic Cooperation Promotion Committee will be upgraded from the vice minister level to the minister level. JoongAng Daily, Oct. 5, 2007.

50) Kim, Yu-Hyang, "The Proposed Exchange Program for the Inter-Korean Telecommunication Industry," Symposium on the Inter-Korean Cooperation regarding IT Technology hosted by the Korea Communication Society at Seoul, March 22-23, 2001.

51) Digital Times, *supra* note 31).

Source: *Internet Law Journal*, Vol.4 No.1, the Korea Internet Law Association, November 2007 *in press*

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Key Words: North Korea, information technology, tele-communications, computer software, inter-Korean cooperation, Northeast Asian economic community

주제어 : 북한, 정보통신, 체신, 컴퓨터 소프트웨어(북한 용어), 남북경협, 동북아 경제권

[국문초록]

IT 분야에서의 남북 경제협력방안

박환일*

정보통신(IT) 산업은 남한의 자본과 기술, 북한의 우수한 인력이 시너지 효과를 발휘할 수 있는 가장 유망한 분야로 기대를 모으고 있다. 북한도 김정일 국방위원장의 최근 몇 차례 중국 방문을 계기로 첨단과학기술을 국가경제발전의 견인차로 보고 있으며, IT분야는 단기간에 대규모의 투자 없이도 최선의 발전을 추진할 수 있다는 입장이다.

북한은 이러한 정책목표에 입각하여 헌법을 비롯한 여러 외국인투자 및 경제특구 관련 여러 법령에 과학기술에 관한 규정을 두고 있으며, IT분야에서는 체신법, 컴퓨터 소프트웨어보호법, 소프트웨어산업법 등을 시행하고 있다. 그러나 이들 IT관련 법제를 보면 남북간에 많은 차이가 있음을 알 수 있다. 북한 체제의 폐쇄성과 경직성으로 인하여 정부당국의의 관계가 법령에 의거한 일처리보다 우선하고, 민간부문의 창의와 경쟁, 협력을 통한 사업을 기대하기 어려운 실정이다. 다만, 소프트웨어산업법이나 컴퓨터소프트웨어보호법에서 볼 수 있듯이 전세계적으로 적용되고 있는 보편적인 저작권의 인정과 함께 북한 내에 소프트웨어 산업의 활성화를 목적으로 하고 있는 것은 바람직하다고 생각된다.

북한의 IT산업은 대체로 남한의 80년대 후반 수준에 있는 것으로 평가되는데, 자본과 기술을 남측 기업이 제공하고 북한의 우수한 전문인력을 활용할 수 있다면 소프트웨어 분야에서의 경험은 매우 유망할 것으로 전망된다. 이를 위해서는 전략물자기술의 수출을 금지하는 바세나르협약과 미 상무부의 수출관리규정의 규제를 벗어날 수 있어야 한다.

그러므로 북한이 핵문제를 해결하고 국제사회의 일원이 되어 진정한 경제협력관계를 구축하는 것이 가장 바람직하다. 이와 함께 우리는 북한 내에서 야기될 수 있는 문제점에도 주의를 기울여야 한다. IT 분야에서는 민간부문의 창의적 노력과 투자활동을 제약하는 요인이 해소되어야 하고, 북한의 관련법령이 구체적으로 어떻게 시행되고 있는지 투명하게 밝혀져야 할 것이다.

통일 이전이라도 남북한 사이에 효과적인 IT 인프라가 구축된다면 다른 분야의 경제협력은 보다 용이해질 것이며, 민족경제의 균형적인 발전을 도모하고 통일비용을 절감하는 등 통일을 앞당길 수도 있다. 그리함으로써 북한은 물론 동북아 경제권에서도 한국의 IT산업이 중심축을 형성할 수 있게 될 것이다.

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