Inside the Network Equipment Industry

Implementing core solutions in next-generation mobile communications, Korea’s network equipment industry is growing and bolstered by government support.

Korea’s network equipment industry has been promptly responding to the need for new technologies and market demand, making continuous investments in innovation. The added values and production of the industry account for 6.0 percent and 4.8 percent of the total added values and production, respectively, of the country’s manufacturing industry. Relying heavily on exports, the Korean network equipment industry accounts for 4.8 percent of Korea’s total exports, posting a continuous trade surplus since the late 1990s.

\[ \text{Production} = \text{Added Value} + \text{Export} + \text{Import} \]

Despite the increased production of cellular phones in overseas operations, Korea’s network equipment industry ranks third globally in terms of production of wireless network devices. Worldwide, the production of the Korean wireless network industry dropped from 11.3 percent in 2005 to 8.6 percent in 2013 but is still in third place, following China and the United States.

In the global smartphone market, Korea rose to first place (for sales) in 2011 and has since remained the top shareholder in the market. Specifically, for each country export, Samsung Electronics outsold Apple and Nokia to grab the top spot in 2012. It remains No. 1, although its share dropped slightly in the second half of 2014.

Korea’s network equipment industry has a low profile in the global market despite its world-class technical capacity. These days, however, it has been reinforcing its competitiveness by implementing core solutions in next-generation mobile communications, including LTE. It has successfully commercialized CDMA and WiBro for the first time globally through joint research and development (R&D) projects between industry-academia-research. In July of 2013, it commercialized LTE-A and launched paid LTE-A service in 2014.

In addition, Korea is No. 1 when it comes to competitiveness and patents in LTE and LTE-A. According to statistics on LTE & LTE-A essential patents listed in patent offices of the United States and Europe as of July 2014, LG Electronics ranks first, with 29 percent, followed by Samsung Electronics with 16 percent and Qualcomm with 8 percent.

Industry status

The global ICT market is valued at USD 3,770 billion in 2014. Specifically, the cellular phone, software, IT service and mobile data network service markets are posting remarkable growth. However, with the saturated PC and wired/wireless voice network service market shrinking, the entire ICT market is showing sluggish growth.

As markets in the advanced part of the world mature, the global ICT market appears to be growing slowly. In contrast, emerging markets including China are posting relatively rapid growth. In 2014, 4G mobile services were introduced in China, the world’s largest ICT market. There has also been an increase in demand in emerging markets for mass-produced mobile devices, including smartphones and tablet PCs. Driven by these changes, the global ICT market is growing as well.

The growth of Korea’s network equipment industry had been sluggish, affected by the increasing number of cellular phones produced overseas. But it began to see rapid growth in 2012. The production of network devices in Korea stood at KRW 7.1 billion (USD 6.5 million) in 2013, a 4.9 percent increase from the previous year, thanks to the increased export of parts for smartphones and other wireless network devices. Recently, the volume of cellular phones, a flagship item of Korea, produced offshore has drastically increased — by over 90 percent, thus resulting in the slowed growth of both domestic production and network device exports. Meanwhile, Korean mobile set providers stationed in foreign countries such as China and Vietnam have raised their smartphone production capacities at the local footholds, which has dramatically boosted the export of wireless network device parts.

So far, the growth of Korea’s network equipment industry has been driven primarily by hand-held devices such as cellular phones. Thus, network equipment has not been given much weight. Nowadays, however, the government is making considerable efforts to promote the network equipment industry. The government is taking the initiative to enhance the industry’s global competitiveness and market demand, as expectations for ICT equipment are heightened in terms of their performance, intelligence and power consumption owing to the expanding service of next-generation mobile communications, big data and cloud service.

The government is attempting to diversify its export structure by promoting ICT equipment. The government is planning to boost the export value of ICT equipment by 2020. The government is also planning to introduce domestic and overseas ICT equipment companies to foster ICT equipment exports.

Foreign direct investment

Foreign direct investment in Korea’s network equipment industry has dwindled since the recent global financial crisis, but it accounts for about 3 ~ 4 percent of the entire manufacturing industry in terms of amount. Major cases include a joint venture by LG and Ericsson, a global network equipment manufacturer. The company has been expanding its investment in 5G recently following LTE.

Korea boasts the world’s top-tier network infrastructure. It has successfully commercialized the LTE-A solution, followed by broadband LTE-A for the first time in the world. The country is characterized by its rapid innovation in IT solutions. With the aim of commercializing the 5G mobile network service for the first time globally by about 2020, the government is expanding its investments in mobile communication solutions, including a plan to invest KRW 1.6 trillion in the field.

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