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Korean Science and Technology

Chang-Hee Kang

Korea is now experiencing severe economic hardship, and the new government of the Republic of Korea, which was born in the middle of the financial crisis, is exerting every effort to overcome these economic difficulties. The key to the revitalization of the Korean economy is having a strong capability in science and technology, because in the knowledge-based global economy of the 21st century, economic prosperity can be attained only through success in these areas. In this regard, I am optimistic because I have confidence in Korea's scientific and technological potential.

Korea is estimated to have 150,000 available researchers, and Korea is second only to the United States in the number of college graduates per unit of population. Every year we produce more than 13,000 scientists and engineers with doctoral or master's degrees. In addition, we are expanding our already considerable government investments in R&D from 3.7% of the total government budget to 5% by the year 2002.

Because of its devotion to science and technology, Korea's achievements over the past three decades have been remarkable. The performance of Korean industries in such areas as semiconductors, steel, and shipbuilding is well known. And Korea has shown great potential in telecommunications, automobiles, and biotechnology. Indeed, I believe that we have the capability to work on a par with advanced countries in these areas. Take, as an example, the Highly Advanced National Project, which is an interministerial R&D program. Some fruitful results are the development of code division multiple access for cellular telecommunications systems, the 1-gigabyte D-RAM semiconductor, transgenic goats, which will produce valuable proteins in their milk, and new materials.

Despite Korea's remarkable accomplishments in science and technology—our rate of increase in patents is now fourth in the world—we still have a long way to go in terms of the productivity and efficiency of our R&D system. Therefore, the new Korean government is reevaluating the current systems in order to respond appropriately to the global economy. For example, we are restructuring our country's science and technology policy. In his inaugural speech, President Kim Dae Jung envisaged Korea's future as a "technology-based industrial economy." Reflecting this, and contrary to the overall reduction of ministries and agencies, the new government has strengthened the functions of the Ministry of Science and Technology by enhancing its rank relative to the other ministries. In addition, the government will soon establish a National Science and Technology Council, which will be chaired by the president himself and will coordinate policies and investments by the government.

The government is also taking bold measures to reform its research institutions. Laws and regulations related to R&D are being amended to encourage private-sector technology development within a market economy. Moreover, the Korean government will promote basic scientific research and nurture creative young minds who will lead national development in the 21st century. For example, we will increase our financial support for university research, especially for centers of excellence and regional research centers (presently 75, expanding to 150 by the year 2002). We will also increase investment in such basic research programs as the Creative Research Initiative. Although our current budget for basic science stands at 14.8% of the total R&D budget, we are planning to increase that share to 20% by the year 2002.

Internationalization is another key element in our effort. We plan to open domestic institutions and national R&D programs to non-Korean scientists, and we hope that they will accept our invitation. At the same time, we believe that scientific and technological cooperation between Korea and other countries, including the United States, must be based on pragmatism and a mutual understanding of our common interests.

We do all this in the face of difficult economic conditions because we value science as a driver of our future well-being.

The author is the Minister of Science and Technology of the Republic of Korea.

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