

KIST at 50, beyond the miracle

This month marks the 50th anniversary of the Korea Institute of Science and Technology (KIST). Remarkably, half a century ago, South Korea was one of the poorest countries in the world, recovering from the Korean War and facing serious economic difficulties. Today, it is a member of the G20 major global economies with a market value that ranks 11th in the world. Investment in science and technology as a development strategy is what made South Korea one of the world's fastest-growing economies. Now, as the nation promotes its new Creative Economy plan, KIST moves into its next 50 years, ensuring that science and technology remain the foundation of this new era of innovation.

KIST's establishment in 1966 is widely seen as the birth of Korea's modern science. Fifty years ago, then-president Park Chung-hee recognized the importance of science and technology in the development of a nation and created KIST, the first comprehensive research and development (R&D) institute in Korea. KIST shook up private industry as it developed technologies and transferred them to the industrial sector. Companies began to realize the importance of R&D, and thus began an era of tremendous investment in R&D. The Korean government established 16 R&D spinoff institutes from KIST, and over the past 50 years, government and industry support of science and technology fields has transformed the nation's agriculture-centered economy to a high-tech economy that encompasses the semiconductor, automobile, steel, shipbuilding, electronics, machinery, and petrochemical industries, among others. In 2014, this accounted for 4.29% of the nation's gross domestic product (GDP), and South Korea ranked number one in the world in R&D intensity (R&D expenditure as a percentage of GDP).

The current administration under President Park Geun-hye has been quick to recognize that sustaining the nation's economic growth requires maintaining the

competitiveness of Korean companies in an expanding global economy. A reengineering of the government's development strategy produced the Creative Economy initiative, launched in 2013. The new plan leverages South Korea's already strong science and technology capacity to spur innovative technologies and creative businesses as the next economic growth engine. To help facilitate this initiative, KIST is bolstering linkages among industry, academia, and government research institutes, and is providing technical and manage-

rial assistance to startup companies and small and medium-sized enterprises. Although KIST's main focus is on basic and fundamental research, it is actively expanding its responsibilities to revitalize Korea's economy through programs that progress basic research outcomes to a market-ready level.

Importantly, South Korea and KIST continue to help the global community. In 1996, the nation joined the Organization for Economic Cooperation and Development, becoming a strong voice with other governments for improving the economic and social well-being of people around the world. Given that KIST was born out of international development aid, particularly from the United States,

the institute strives to serve as a model to help other countries and is currently assisting Vietnam in establishing a research institute, the Vietnam-Korea Institute of Science and Technology.

What South Korea achieved in a half-century is considered nothing short of a miracle. Over the next 50 years, all nations will need to make great advances in meeting the challenges of a growing population, sustainable energy and food resources, health and disease issues, and climate change. KIST hopes not only to serve as a research pioneer and hub for national R&D, but to help South Korea make contributions that will bring a better quality of life to all people.

— Byung Gwon Lee



Byung Gwon Lee is the president of the Korea Institute of Science and Technology, Seoul, Korea. E-mail: bglee@kist.re.kr



Armadillo-T, an experimental car made in South Korea

“What South Korea achieved in a half-century is considered nothing short of a miracle.”

KIST at 50, beyond the miracle

Byung Gwon Lee

Science **351** (6276), 895.
DOI: 10.1126/science.aaf5006

ARTICLE TOOLS

<http://science.sciencemag.org/content/351/6276/895>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.