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SCIENCE & TECHNOLOGY NEWS FROM THE REPUBLIC OF KOREA, SEPTEMBER 2010

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A. Policies

S. Korea to raise status of presidential science panel

(Yonhap News of 01 10 2010)

South Korea will upgrade a presidential advisory panel on science and technology into a standing administrative agency to bolster its research and development (R&D) capabilities, the government said Friday. The president will chair the National Science and Technology Council once its status change is made during the first half of 2011, with a minister-level official to act as its deputy chairperson, the Ministry of Education, Science and Technology said. It will also be put under direct control of the president and tasked with overseeing 75 percent of the country's R&D budget, including the allocation of resources and carrying out evaluations on state-funded projects. Seoul plans to spend 14.87 trillion won (US\$13.13 billion) on R&D projects in 2011, up 8.6 percent from 13.70 trillion won allocated for this year.

"The council will effectively become the 'control tower' for all government-led R&D programs and policies," a ministry official said.

Seoul launches int'l advisory group for technology development

(Yonhap News of 14 09 2010)

South Korea launched Tuesday a new international advisory group to help guide its research and development of new technologies, government officials said. The International Technology Advisory Board consists of seven foreign scientists (4 Americans, 1 Russian, 1 Japanese, 1 French) and eight South Korean experts also working in other countries, according to the Ministry of Knowledge Economy.

S. Korea seeks to bite into non-memory chip market

(Yonhap News of 09 09 2010)

South Korea plans to spend up to 1.7 trillion won (US\$1.45 billion) in the next five years to help the country's chip-makers find a way into the fast-growing non-memory chip market, the government said Thursday. The move comes as the country's chipmakers, such as world leader Samsung Electronics Co. and Hynix Semiconductor Inc., which together control over 50 percent of the global memory chip market, have only about 3 percent of the bigger and more lucrative market for non-memory chips.

National universities face sweeping reforms

(Joongang Daily of 01 10 2010)

The Ministry of Education, Science and Tourism launched a series of reforms for the country's national universities on Tuesday in a bid to raise their competitiveness both at home and abroad. Many of the 24 national universities across the country struggle with issues of management and their inability to handle change, a deputy minister said in a meeting with university officials. This led to "negative impressions about the [quality of] education provided by national universities," he said.

Post-graduation employment rates and the number of research papers written by full-time staff have been falling behind those of private universities, while only one national South Korean institution made it to the top 100 of an au-

thoritative world university ranking last year.

According to the ministry's new plan, college deans will be appointed by the president of the university, rather than selected directly by professors of the same college. The current method has been criticized for triggering political infighting among supporters of rival candidates and disrupting the educational and research atmosphere. The ministry expects future deans, with the blessing of the president, to improve the efficiency of university management. Candidates for the top post at schools of education, in particular, may be subject to a screening process before being recommended to the ministry for appointment.

B. News

S. Korea develops gene-altered pig with better chance for organ transplant (Yonhap News of 30 09 2010)

South Korean scientists have created a genetically modified pig with a higher chance of providing a successful animal-to-human organ transplant, a state institute said Thursday. The country developed its first engineered pig, Xeno, last year by removing the alpha-1, 3 galactosyltransferase that causes rejection of transplanted organs in human bodies. The latest specimen has an added gene that causes excessive production of membrane cofactor protein, known to help prevent hyperacute and acute rejections, according to the National Institute of Animal Science. The new pig was jointly developed by the institute and a team led by Prof. Kang Man-jong of Chonnam National University. Two pigs, named Mideumi 1 and 2, were born Aug. 11 and are being raised in incubators to prevent any possible contact with germs.

S. Korea develops airline safety IT systems (Yonhap News of 26 09 2010)

South Korea has developed two new airline safety management information technology (IT) systems that can promote adherence to recommended practices and prevent accidents, the government said Sunday.

The Ministry of Land, Transport and Maritime Affairs said the systems merge IT, industry-wide knowhow and expertise to boost efficiency and safety oversight of airlines and regulators around the world.

Scientists create technology to mass produce future electrical conducting material (Yonhap News of 26 09 2010)

South Korean scientists said Sunday they have developed a technology that could facilitate the mass production of super strong, flexible electrical conducting materials that can be used in next-generation semiconductors and displays. The Sungkyunkwan University team led by chemistry professor Lee Hyo-young said they employed a novel "reducing agent" system based on hydriodic acid and acetic acid material that can make large quantities of high-quality graphenes.

LG Chem to provide batteries to France's Renault SA (Yonhap News of 30 09 2010)

LG Chem Ltd., South Korea's leading chemicals maker, said Thursday that it signed a formal deal to supply lithium-ion batteries for electric vehicles made by French automaker Renault SA starting next year. LG Chem will provide batteries produced at a plant in South Korea to the French automaker, the company said.

Korea's First Full-Speed Electric Car Signals Breakthrough for the Industry (Korea Times of 16 09 2010)

Korea unveiled its first pure electric car, the BlueOn, last week, making it the second country in the world to develop an electric car suitable for mass production. In light of this milestone, Korea now intends to begin mass production of small electric cars in 2011—two years ahead of an earlier timeline.

The BlueOn is a collaborative effort among 44 businesses, including Hyundai Motor, and boasts the world's best performance in various areas ranging from the distance it can travel without being recharged (140 kilometers) to time required to fully recharge a battery (six hours). Mitsubishi's i-MiEV, which came out last year, can travel only 130 kilometers without being recharged and its battery takes seven hours to recharge. In the face of fierce competition from international rivals, Korea is stepping up its efforts to support technology development and make its domestic electric vehicle industry more competitive.

LG to invest \$432 million in water business

(Korea Times of 16 09 2010)

LG Electronics, the world's third-biggest home appliances manufacturer, is planning to invest 500 billion won or some \$432 million in the "water treatment business" over the next 10 years.

LG said more details about the new business will be forthcoming later but the Seoul-based electronics company added it is eyeing to strike acquisition deals start the business off.

"Water scarcity has recently emerged as one of the top concerns in governments. As a corporate citizen to better handle social issues, LG decided on the water treatment business as its next earnings driver," said Lee Jin-se, a senior LG Electronics spokesman, Thursday. Lee declined to comment which companies are possible targets for M&As. "One key point is it's clear that LG must boost competitiveness in the sector as early as possible by implementing various methods," Lee added.

LG plans to set up an independent unit composed of 70 people by the end of this year, while it has begun developing "membranes" — a key component for water treatment.