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SPECIAL ISSUES

Enhanced Support for S&T Innovations

China will, during the11th Five-year plan period(2006-2010), secure an investment worth RMB 6 billion to support 12 major S&T infrastructure projects, including spallation neutron source, strong magnetic field experimental device, and marine expedition boat, said XU Qin, Director of High Tech Industry Department, part of the State Development and Reform Commission (SDRS), at a news briefing held for the opening of the 8th High Tech Fair. SDRS will also make some RMB 5 billion available for phase III knowledge innovation project implemented by the Chinese Academy of Sciences, for establishing 50 national engineering research centers, 100 national engineering labs, and for supporting the construction of 300 industrial technology centers at the national level, and a number of infrastructure platforms for proprietary innovation activities.

During the 8th High Tech Fair held in October in Shenzhen, SDRS sponsored a show named "proprietary innovations", where major proprietary innovation accomplishments achieved during the 10th Five-year period were displayed. According to a briefing, during the 10th Five-year period, SDRS has made an investment worth RMB 2 billion in some 10 major national scientific projects, including scientific continental drilling, RMB 4 billion in the phase II knowledge innovation project initiated by the Chinese Academy of Sciences, and more than RMB 500 million in upgrading 143 national key labs. Support has also been given to the independent development of industrial technologies and equipment, and facilitating commercial applications of proprietary innovation findings.

According to XU, while supporting the capacity building of innovation infrastructures, SDRS has enhanced its support for proprietary innovations and high tech industry, during the same period of time. It has organized the implementation of a range of high tech industrial projects, such as new energy, and facilitated equipment localization efforts in16 major sectors, including nuclear power generation, high-speed railway, and large ethylene works. SDRS has worked hard to accelerate the implementation of 16 special S&T projects defined by the National Outline for Medium and Long Term S&T Development Planning, and the construction of high tech industrial centers. SDRS will soon work out a string of industrial policies concerning integrated circuits, software, and biotechnology, and 29 implementation by-laws for encouraging industrial proprietary innovations, strengthening the combined process of importation, digestion, and absorption, and supporting technology innovation activities of small and medium-sized enterprises, in an attempt to create a policy environment agreeable with proprietary innovations, and high tech industrial development.

New S&T Mechanism for Poverty Mitigation

Jointly sponsored by the Chinese Ministry of Science and Technology, Ministry of Commerce, and UNDP, a launch event was held on September 13, 2006 in Wulumuqi, Xinjiang, to explore the innovative and long term mechanism for S&T based poverty mitigation activities in the rural areas. LIU Yanhua, Vice Minister of Science and Technology, Khalid Malik, permanent representative of UNDP in Beijing, WANG Yue, Director of China International Economy and Technology Exchange Center, part of the Ministry of Commerce, and ZHANG Enxian, a senior official from the Department of Technical Personnel Management under the Ministry of Personnel, spoke at the event.

Scheduled for a 3-year implementation, the project will consume a sum of USD 7.4 million, of which UNDP will contribute USD 2 million, and the Ministry of Science and Technology and local government USD 5.4 million. The project is designed to further work on the socalled S&T envoy system, exploring effective combinations of governmental and public efforts, and rendering new contributions to serving the rural areas with science and technology, so as to reduce the poverty with S&T means and

build a socialist new rural area.

During the meeting, the Ministry of Science and Technology, UNDP, and Ministry of Commerce jointly inked a Memorandum of Understanding on securing additional investment for the project. Officials from 15 provinces, municipalities, and autonomous regions signed the letters of promise, and submitted them to LIU Yanhua, Vice Minister of Science and Technology, for implementing the project.

Proprietary Innovations for Scientific Instruments

During the 9th and 10th Five-year periods, the Ministry of Science and Technology (MOST) has made the research and development of scientific instruments and equipment an important part of the national efforts for key technologies. The effort has played an important role in upgrading scientific instruments and equipment, and associated personnel training and industrial development. MOST, in collaboration with the General Administration of Quality Supervision, Inspection and Quarantine, has made the research and development of scientific instruments and equipment a major project continuously be supported during the 11th Five-year plan period. The new initiative is made on the demand for 1,500 scientific instruments proposed by government agencies and localities.

The new project will be made up of four R&D components, including key components for analyzing instruments, instruments for life science labs, special instruments for monitoring and testing, and major sophisticated instruments. The effort will noticeably raise China's technical level in scientific instruments making, and gradually address the "empty core" issue of home made scientific instruments. It will also strive to meet monitoring and testing needs in priority areas, supporting the implementation of major missions set up in the National Outline for Medium and Long Term S&T Development Planning.

CIIIC Home in Jinan

The Chinese Ministry of Science and Technology and Shandong Province will jointly establish China International IT Innovation Cluster Zone (CIIIC) in Jinan, according to a briefing circulated at a news conference organized by China-US Information Industry Innovation Forum. Before that, senior officials from MOST and Shandong municipal government have introduced the endeavor to their counterparts in the United States. An application document "CIIIC Construction Plan", prepared by the Shandong Provincial Bureau of Science and Technology, and the Jinan High Tech Park Administration, has been submitted for approval. A concrete implementation plan is under drafting.

According to the preliminary scenario of MOST, CIIIC will be designed to attract the involvement of IT businesses and research institutes from the United States, Japan, and Europe, as well as the participation of Chinese students returned from abroad, large domestic enterprises, and R&D institutes, making it an IT innovation center integrated with international R&D efforts and industrial resources, and the largest IT business incubator facility enjoying the combined service of incubation, venture capital, and intermediary service. It will become an experimental zone for linking with global IT businesses, S&T system reform, and targeted preferential policies, as well as a national center for information technology development.

INTERNATIONAL COOPERATION

China-Europe Talks on Biotechnology

China-Europe talk on biotechnology and biopharmaceuticals, the second of its kind sponsored by China Biotechnology Development Center, European Association for Market Extension, Biomedical Forum, and European Alliance for Biotechnology, was held on September 18, 2006 in Beijing. The event is arranged to share biotechnologies and associated industrial development in Europe, and promote collaborations between Europe and China in the field.

Some 300 participants from 60 biotechnology and biopharmaceutical businesses in more than 20 countries, including the UK, Germany, Belgium, Sweden, Estonia, Singapore, and Australia, and from 160 Chinese businesses, attended the talk.

Participants had an in-depth discussion of a string of interesting topics, including pharmaceuticals, agriculture, food, industry, environment, and energy, in an attempt to establish a collaborating and exchange platform for biotechnology businesses in both China and Europe, and open a window for enhancing the links between the two. The event is also held to allow Chinese enterprises to be familiarized with professional management practices used in Europe for biotechnology and biopharmaceutical related research and development, and product diffusions. In addition, it provides an opportunity for business talks between European and Chinese businessmen. The effort creates a channel for being part of each other's capital market. While facilitating international as well as mutual cooperation, the event will eventually benefit the biotechnical development in both sides.

China-Europe Grid Cooperation

The first China-Europe computation grid forum dropped its curtain on September 19, 2006 in Rome, Italy. Participants from China, Italy, and France discussed a range of involving issues, including China-Europe computation grid project, and making grid technology part of ongoing processes, including scientific information.

As a project listed under the EU's 6th framework program for research and technology development, China-Europe grid project was officially launched on January 1, 2006. Scheduled for a two-year implementation, the project is designed to provide support for the integration and mutual operation of computation grid infrastructures in both Europe and China. The effort will facilitate the transmission and handling of scientific data, and application of scientific information. It will also strategically enhance the existing cooperation between European and Chinese scientific communities, in a move to extend the cooperation into industrial communities.

The project, upon its completion, will offer a handling capacity ranging from 10 million to 15 million GB, or equivalent to the volume of 20 million compact optical disks. It will effectively address the discrepancies between limited computation capacity/storing resources and demanding computation tasks.

ENVISAT Application Approved

Under the co-sponsorship of the Chinese Ministry of Science and Technology and the European Space Agency, a "Dragon Project" was initiated under the joint implementation of the National Remote Sensing Center and the Department of Ground Observation, part of ESA. Under the project, an ENVISAT sub-project is contracted to the Institute of Resources Information under the Chinese Academy of Forestry Science, for comprehensive applications of ground observation data. The sub-project passed an approval check on September 10, 2006 in Beijing.

The implementation of "Dragon Project" has resulted in a range of internationally advanced findings, including multi-polarization and multi-time phase based SAR data processing techniques, and their applications in agriculture, forestry, and water resources, interference and permanent scatterer interference based SAR topographic mapping and shape monitoring, SAR internal marine wave monitoring, and ENVISAT based multi-source remote sensing data applications in air quality monitoring. The project has kept Chinese scientists abreast with the latest international developments in the area, and raised China's international position in ground observation technology.

Under the project, a series of events have been organized, including an annual technology sharing forum, and yearly advanced training course for remote sensing technology, and short term exchange of visits of young scientists between the two sides. These efforts have made the "Dragon Project" an important international cooperation platform for ground observations. It enhances the exchanges and mutual understanding between remote sensing experts of both sides, creates a solid foundation for mutual cooperation, and promotes in-depth collaborations in diverse areas.

The project has also achieved noticeable progresses in joint research, technical training, and data sharing, and become a role model for international cooperation. Both sides expressed wishes for extending the model further into other cooperative activities.

RESEARCH AND DEVELOPMENT

Advanced Superconducting Magnets

At 08:00 September 19, 2006, BEPCII successfully rolled out a superconducting magnet of 10,000 gauss, or 20,000 times that of the Earth magnetic field, with an electric current reaching 3,368 amperes, and an energy storing capacity of 10 million joules. Tests show that the magnet has produced the indicators all up to the design requirements. As a key component for the Beijing Spectrometer, the newly developed superconducting magnet is mainly made up of superconducting coil, low temperature thermostat, cold matters, and electromagnetic suspension structures. It will produce a large caliber and high intensity magnetic field for the Beijing Spectrometer. Using internationally advanced techniques, including single layer internal coil winding, and forced two-phase helium cooling, the magnet can be remotely controlled, through connecting a special valve chamber with the helium cooling device.

The superconducting magnet, developed by the Institute of High Energy Physics, part of the Chinese Academy of Sciences, makes the largest of its kind in the country. It takes three years for Chinese engineers to work out solutions for a range of technical puzzles, including large caliber superconducting magnet winding, solid insulation, indirect cooling, and special power cable, which makes the smooth operation of the magnet possible. So far, only Europe, the United States, and Japan have possessed the superconducting magnets of similar specifications.

On the basis of the successful development of the new superconducting magnets, the Institute of High Energy Physics will soon embark on the development of superconducting magnets for magnetic resonance imaging application, in addition to its effort for developing a magnet that can remove unwanted magnetic matters from coals.

Kilomega Chip Firewall

Rising Corp., the largest domestic information security vendor, announced on September 21, 2006 in Beijing that it has successfully rolled out an ASIC chip based kilomega firewall. As a proprietary new product, RSW-B2000 is of a core technology reaching an internationally advanced level.

According to a briefing, the kilomega chip based firewall has five improved functions: fast processing speed, blockading the transmission and propagation of viruses, supporting all civilized protocols, resisting regular SQL attacks, and patching immunities. Thanks to the patented technology developed by Rising, the new firewall can directly work on online data packets, not only avoiding the restoring process, but also allowing a faster and

more stable operation. Even when attacked, clients will not be compromised of transmission speed.

In addition, the large volume buffer storing technology has greatly raised the performance of Rising firewall. When used in online applications, it is able to store and provide the websites frequently visited by users. IT managers can work more efficiently through WAN connection. The newly added data flow reshaping function will not allow the chip firewall to reduce the performance of online computer, but rather get it improved.

Comments or inquiries on editorial matters or Newsletter content should be directed to:

Mr. Mao Zhongying, Department of International Cooperation, MOST 15B, Fuxing Road Beijing 100862, PR China Tel: (8610)58881360 Fax: (8610) 58881364

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