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SPECIAL ISSUE

Beijing Wants More Overseas Talents

Not long ago, Beijing publicized an action plan to enhance the recruitment of talented people for Zhongguancun in the coming five years (2011-2015). According to the action plan, Beijing will recruit some 1,000 high caliber overseas talents, and 30,000-50,000

overseas returnees in 5 years from 2011 to 2015. To achieve the goals, the action plan designed 6 major projects, along with a range of new measures in addition to the practice of establishing a high-level innovative personnel capital fund and labs.

The action plan proposes to open up a wider perspective for selecting and recruiting talented people, supporting the "soft flow" of talented people between the central and local governments, while recruiting high caliber and highly skilled personnel from nationwide sources. The action plan also points out that efforts shall be made to establish a novel research institute for new materials, in collaboration with the Chinese Academy of Sciences, making it a technology innovation leader. Meanwhile, it reaffirms the incentives that it will build 10,000 units of rental housing in the coming 3 years, encouraging employers to build apartment buildings for talents, and mobilizing industrial parks to build similar apartment buildings for recruited talents, under preferential policy support.

Beijing has also for the first time proposed to set up a center to promote the capacity building of personnel, and defined a day for talented people, soliciting the opinions and suggestions on talented people capacity building, and raising the service quality and efficiency of personnel service.

INTERNATIONAL COOPERATION

WAN and Gilani attended China-Pakistan Entrepreneurs Forum

A China-Pakistani Entrepreneurs Forum, co-sponsored by the China International Trade Promotion Committee and the Pakistani Embassy in Beijing, was held on May 19, 2011. Chinese Minister of Science and Technology WAN Gang and the visiting Pakistani Prime Minister Yousuf Raza Gilani made their speeches at the forum.

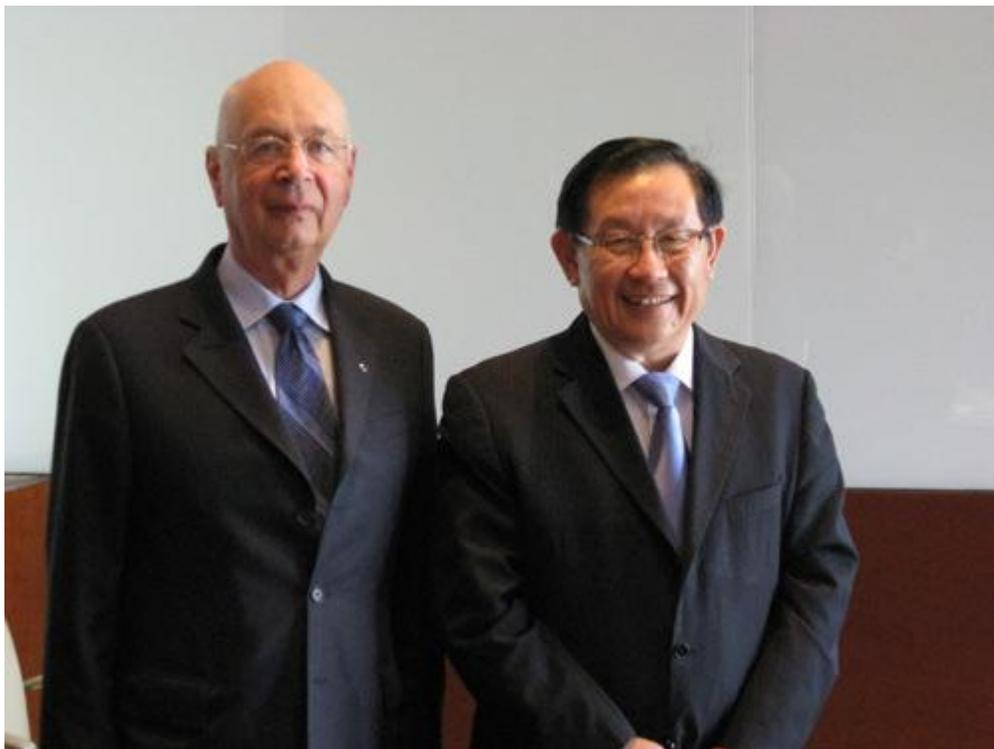
WAN welcomed Prime Minister Gilani's visit to China, on behalf of the CPPCC, and Chinese business and science communities. WAN said China and Pakistan signed a science and technology cooperation agreement in 1976, and the two countries have had 16 sessions of intergovernmental joint commission on science and technology meetings during the period. Both sides also inked a range of cooperation accords in the areas of meteorology, mapping, marine, new energy, and traditional medicines. S&T cooperation has played a positive role in promoting the two countries' economic development, and in enhancing the friendly relationship between the two. The two countries' future collaboration will focus on energy, infrastructure, communications, agriculture among others, consolidating and deepening the economic and trade ties between the two countries.



At the Forum, China Huadian Corporation and TBEA signed a separate cooperation agreement with Ruba Group. Masood Khan, Pakistan Ambassador to China and YU Yang, Vice Chairman of China International Trade Promotion Committee, and some 200 Chinese and Pakistani entrepreneurs attended the forum.



WAN Met with Forum Founder Klaus Schwab



WAN Gang, Chinese Minister of Science and Technology, met and had breakfast with Klaus Schwab, the World Economic Forum Founder and Executive Chairman, and his party on May 19, 2011. WAN briefed the guests of the development of Chinese high-tech parks and S&T businesses, and exchanged views with Prof. Schwab on training young scientists and enhancing the capacity building of industrial innovations. WAN said he will attend the World Economic Forum to be held in Dalian (the "New Champions") in the coming September, where a range of technological innovation events will also be staged.

Fruitful China-EU Biological Diversity Cooperation

On the eve of International Day for Biological Diversity, an event was staged to mark the accomplishments derived from China-EU biodiversity cooperation and celebrate the International Day for Biological Diversity (May 22) in Beijing. China-EU Biodiversity Program was jointly initiated by the European Union, the United Nations Development Program, Chinese Ministry of Commerce, and Chinese Ministry of Environmental Protection on June 2005. The program is scheduled to wind up at the end of September 2011.

LI Ganjie, Chinese Vice-Minister of Environmental Protection, said the five-year cooperation has generated fruitful results, and has become a role model for China-EU cooperation in the field of environment. The platform has enhanced the collaborations between Chinese government agencies, including the Ministry of Environmental Protection, Ministry of Land Resources, Ministry of Agriculture, Ministry of Water Resources, State Administration of Quality Supervision, State Administration of TCM, and State Forestry Administration. Meanwhile, the program has produced a positive impact on the major biodiversity protection activities at the local level. In the past five years, the program has provided technical and financial support to the governments at different levels for preparing biodiversity-related policies, laws, regulations, plans, and standards.

China-Netherlands Research and Innovation Platform

A China-Netherlands Research and Innovation Seminar, co-sponsored by the MOST Department of International Cooperation and the Netherlands Organization for Scientific Research (NWO), was held on May 13, 2011 in Shanghai. 30 representatives from government agencies, research institutes, and industry attended the meeting, discussing a range of issues, including the establishment of a research and innovation cooperation platform, and the new opportunities and approaches that may arise from the cooperation between industry, universities and research institutes. Representatives from both sides briefed the audiences of S&T cooperation between the two countries, the practice of cooperation between industry, universities and research institutes, and scenarios letting the platform be a medium where the two countries have their researches and innovations.

At the forum, representatives from enterprises, research institutions and universities spoke about the research and innovation cooperation platform, along with suggestions and requirements.

RESEARCH AND DEVELOPMENT

Pigs Cloned with 4 Fluorescent Proteins

A study team, led by LAI Liangxue with the Chinese Academy of Sciences Guangzhou Institute of Biomedicine, in collaboration with Prof. GU Weiwang at the Southern Medical University, and Prof. WU Zhenfang of South China Agricultural University, has successfully bred out special transgenic pigs that are able to emit red, yellow, green, and blue fluorescence lights under a given wavelength, the first transgenic pigs able to simultaneously express 4 fluorescent proteins in the world.

Researchers injected the genes that are able to express red, yellow, green, and blue fluorescence proteins in pigs' fetal fibroblast cells, using the electroporation method, before getting to somatic cell cloning, and further to conceiving the cloned embryos in surrogate sows. The efforts ultimately produced 11 transgenic pigs that have been living healthily for more than a year, and started to breed the next generation. The finding was published in the recent issue of *PLoS ONE*.

Somatic cell cloning is a most effective approach to produce large transgenic animals. Unfortunately, in the past, restricted by the limited capability of receptor cells, a single round of cloning can only have one exogenous gene. Chinese scientists skillfully aligned different fluorescent protein genes on the same carrier, using the 2A peptide sequence, and made a single round of cloning getting multiple exogenous genes possible. The development has not only overcome the technical barrier of multiple gene transfer, but also realized the coordinated expression of multi-genes at a higher level.

Treating Heart Diseases Using HGF

Researchers from Nanjing Medical University, Chinese Academy of Military Medical Sciences, and Shanghai Minimal Invasive Medical Device have successfully treated ischemic heart diseases using hepatocyte growth factor (HGF). The treatment, currently in phase II clinical trials, has reached the desired therapeutic effect in 3 ischemic heart disease patients.

Prof. YANG Zhijian, from Nanjing Medical University, said treating ischemic heart disease

using gene therapy works just like installing two switches on the essential drugs, allowing the drug to grow blood vessels only when heart becomes myocardial ischemia and hypoxia, resurrecting myocardial cells. The drug not only 'grows' new blood vessels, but also 'resurrects' myocardial cells that go for apoptosis, important for regulating the specific expression of blood vessel growing genes in ischemic myocardium, and raising the safety of angiogenic gene therapy.

The drug treating ischemic heart disease using HGF has been granted by the national authorities a Class-I new drug certificate, in Phase-II trials. Researchers also developed a novel syringe able to inject the drug into the necrotic myocardium through the femoral artery in a minimally invasive manner. It takes only half an hour to complete the surgery. Patients can move freely after the operation.

Largest Home Made Electron Linear Accelerator

An S-band 10MeV-20kW electron linear accelerator, jointly developed by Wuxi Aibang Radiation Technology and CAS Institute of High Energy Physics, has recently passed the experts' verification check. The accelerator, tested by China Institute of Metrology, is able to generate 10.2MeV of energy, at a nominal beam power of 22.1kW, reaching and exceeding the design specifications of 10MeV and 20kW, making itself the most powerful and advanced industrial 10MeV accelerator.

According to a briefing, the accelerator can be employed to process different stuff under room temperature, desirable for the sterilization of medical and health supplies, food, and agricultural by-products, freshness preservation, chemical and medical polymer property modification, and semiconductor performance enhancement.

Decision Making Robot

A China Service Robot Competition, co-sponsored by the Chinese Association of Automation and RoboCup Chinese Committee, was held from May 20 to 22, 2011 at the University of Science and Technology of China. 60 teams from 22 universities, including the University of Science and Technology of China (USTC), and Shanghai Jiaotong University, were the contenders for 8 games, including fast tracking, objects searching, target identification among others. In the contest, USTC's robot "Kejia" (1st generation) can understand human natural language, and is able to learn, think, and reason. When asked to heat the bread in a microwave oven, it did not know how to operate in the first place. However, after consulting the users' manual through internet, it was enabled to open the door of the microwave oven, putting the bread into it, pressing the button, and taking out the food before presenting it to people.

Service robot is a major direction that the robot industry will head for. China has made intelligent service robot one of the four advanced manufacturing technologies that China has to master in the future, allowing them to be extensively employed in the areas of education, entertainment, advanced manufacturing, and service.

NEWS BRIEFS

Localized Special Steel for High-Speed Locomotives

The special steel developed by Shougang Guiyang Special Steel Company has been successfully applied to the high-speed and heavy duty locomotives and vehicles, including 9600kW and 7200kW drive axle, making it a qualified substitute to the imported. The project, initiated under the National Science and Technology Support Program, was recently passed experts' acceptance check.

Experts commented that researchers have mastered a range of key technologies needed for composition control, smelting, casting, forging, and thermal treatment at an industrial scale, and landed technology innovations in large ingot casting, and organized and uniformed large-scale thermal processing, with the products derived from the project reaching an international advanced level.

The company has so far completed the construction of a high quality axle steel production line up to the European standards, with an annual capacity of 25,000 tons.

Home Made Medical Supply Tracking System

A sterilized supply tracking system, jointly developed by Anhui Huizhi Information Technology, University of Science and Technology of China, and Anhui Provincial Hospital, has recently passed the experts' approval, and put into operation.

The system, built on automatic bar code identification technology, is able to track down the flow of sterilized medical equipment in a hospital, covering recovery, sorting, cleaning, disinfection, inspection, maintenance, packaging, sterilization, storage, and distribution. It also registers the tasks and workloads assigned to staff, allowing the in-hospital infection accidents being tracked down on time. The system also reduces the number of backup equipment packages, with the shortened duration of cycle, raised utilization rate, and reduced wear-down. The system also enjoys a greatly reduced maintenance cost, compared with similar imported systems.

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