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# NEWSLETTER

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SPECIAL ISSUE

## Major S&T Accomplishments in 11<sup>th</sup> Period

During the 11th Five-year Plan period (2006-2010), China initiated and implemented more than 2,500 projects under a range of national S&T earmark programs, with a sum worth RMB 40 billion. Some projects have resulted in innovative results and findings:

1. Large aircraft project. The master plan of large aircraft C919 has passed national authorities' assessment. Chinese scientists have achieved breakthroughs in developing the need materials and key technologies for making the aircraft. The prototype nose has been built, ready for function tests.
2. Large nuclear power plant project landed a range of breakthroughs in manufacturing large components, pipes, and safety steel dome for the AP1000 steam generator.
3. Oil-gas project has developed major equipment, including a large seismograph of an international advanced level, and a semi-submersible drilling platform able to hit a water depth at 3000m.
4. Water pollution control project has rolled out a range of key technologies able to reduce pollutants emissions in chemical and pharmaceutical industries, including energy-saving sludge dewatering equipment, facilitated the development of innovative environmental protection industry and the realization of the emission reduction targets defined for the 11th Five-year period.
5. Thanks to the support of genetic modification earmark projects, China has speeded up the diffusion and commercial applications GM cotton, enjoying a market share as high as 93%.

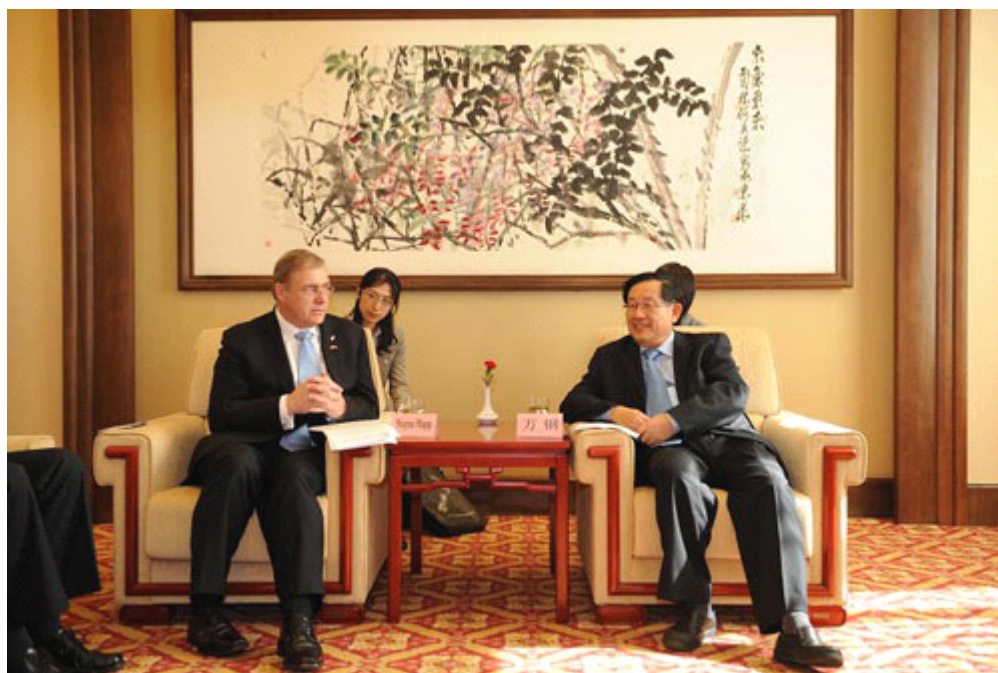
During the 11th Five-year Plan period, China launched earmark projects to develop vaccines and diagnostic agents for major infectious diseases, including the vaccines for 40 common diseases. Two of them have been granted with new drug certificates, and put into commercial applications. For example, the recombinant oral *Helicobacter pylori* vaccine, developed by No. 3 Military Medical School with a new drug certificate granted in March 2009, is the first of its kind in the world that have obtained a new drug certificate. Beijing Minhai Biological Technology developed an acellular pertussis, diphtheria, tetanus and haemophilus influenza type b combined vaccine, and was granted with a new drug certificate, the first of its kind in the country.

In the same period, China's implementation of the so-called Food S&T project has produced numerous innovative technologies and techniques able to boost the yields of three major crops. The new technologies and techniques have been diffused to an area of 682.55 million mu (1 mu=0.0667 hectare) on a combined basis, in 12 major food producing provinces, with a raised yield by 40,0868 million tons,

During the 11th Five-year Plan period, China landed breakthroughs in developing core technologies and key components for building large scientific facilities on its own. For example, Lanzhou Heavy Ion Accelerator Storage Ring, Beijing Electron-Positron Collider upgrade, and Shanghai Synchrotron Radiation Facility, have passed the state approval check, noticeably enhanced China's proprietary and integrated innovation capability.

## INTERNATIONAL COOPERATION

### WAN Met with New Zealand Guests



October 15, 2010, WAN Gang, Chinese Minister of Science and Technology, met with Wayne MAPP, New Zealand Minister of Defense and Research Science and Technology, and his party in Beijing. Both sides thought highly of the progresses achieved in bilateral S&T cooperation in recent years, and expressed their satisfactions over the implementation of scientists exchange projects, and the establishment of a strategic research alliance between the two countries. Both sides agreed to strengthen collaborations in the areas of new energy, food safety, and environment. After the meeting, two ministers inked a joint statement on China and New Zealand cooperation research fund.

## China-US Innovation Dialogue



A China-US Innovation Dialogue was held on October 14, 2010 in Beijing. WAN Gang, CPPCC Vice Chairman and Minister of Science and Technology, and Dr. John P. Holdren, advisor to the President for Science and Technology and Director of the White House Office of Science and Technology Policy, co-chaired the meeting. More than a hundred representatives from government agencies, industry, and academic circles attended the meeting. Chinese and US participants exchanged candid views on four major themes, including innovation policy, best practices for implementing innovation policies, industrial views on innovation initiatives, and means to promote innovations.

The Dialogue was initiated by China-US Joint Committee Meeting on S&T Cooperation, as a follow-up action to implement the consensus reached between the convoys of the heads of two countries, under the second China-U.S. strategic and economic dialogues. The next round of innovation dialogue will be held before the China-U.S. strategic and economic dialogues to be held in May 2011.

## Innovation Cluster Cooperation

A China-France innovation cluster cooperation forum was held October 17-18, 2010 in Chengdu. CAO Jianlin, Chinese Vice-Minister of Science and Technology attended the opening ceremony, and delivered a speech, saying that the scientific and technological cooperation between China and France makes a strong impetus to the development of political, cultural, economic, and trade ties between the two countries, and the collaboration has become increasingly important for enhancing the overall strategic partnership between the two countries. The Chinese Ministry of Science and the French Ministry of Economy, Finance, and Employment jointly signed in November 2007 an accord to strengthen cooperation between Chinese high-tech parks and French competitiveness clusters. In the past three years, China and France have enhanced the collaborations between competitiveness clusters, and achieved satisfactory results, through sharing experience, surveys, and innovation projects.

The forum was jointly sponsored by MOST Torch High-Tech Industrial Development Center, and Dept. of competitive industries and services under the French Ministry for the Economy, Industry, and Employment. A French delegation, headed by Luc Rousseau, Vice Minister for the Economy, Industry, and Employment, and membered by some 70 representatives from government agencies and 12 competitiveness clusters, attended the forum. 150 and more Chinese participants from 15 High-tech parks, innovation centers, and S&T intermediary services, were also present at the forum. The Forum is a complete success, as it makes a platform for sharing views, experience, policies, and practices on competitiveness clusters' cooperation.

## International Technology Transfer Conference

An International Technology Transfer Conference, co-sponsored by Department of International Cooperation, Department of Policies and Regulations, and Torch High-Tech Industrial Development Center under Ministry of Science and Technology, Shanghai Muni

cial S&T Committee, the United Nations Asia-Pacific Technology Transfer Center, and China-EU Intellectual Property Protection Project Phase II Office, and organized by Shanghai Technology Exchange, was held October 13-14, 2010 in Shanghai. The meeting had an in-depth exchange and discussion of a range of issues on the importance, valid model, and future development of technology transfer, through theme lectures and roundtable meetings. More than 260 participants from 23 Chinese provinces and from 18 countries, including US, UK, France, Germany, Luxembourg, Austria, India, Vietnam, and international organizations, including the EU, attended the meeting.

During the meeting, Chinese and foreign participants discussed four major issues, including technology transfer: practice and economy at universities, application of technology transfer models developed by research institutions, intellectual property practice in technology transfer, and promoting technology transfer through innovation service network. Participants agreed that the countries and international organization that participate in technology transfer shall enhance their exchanges and cooperation, promoting international technology transfer, and rendering due contributions to the sustainable social and economic development of human society.

## Developing Countries Adapt to Climate Change



With the support of MOST Department of International Cooperation, Department of Soci

al Development, and Agenda 21 Management Center, a workshop on S&T cooperation among developing countries to address climate change, co-sponsored by MOST China Science and Technology Exchange Center and Chinese Academy of Sciences Institute of Geographic Sciences and Resource Research, was opened on October 8, 2010 in Tianjin. Some 70 participants, including the officials from MOST, embassies of developing countries and international organization in Beijing, representatives attending the UN climate change talks, trainees attending technical training events staged for developing countries, and representatives from higher learning institutions and industry, attended the meeting.

Participants discussed a range of issues concerning South-South S&T cooperation in addressing climate change issues, including needs, mechanisms, and capacity building, and proposed the priority areas for the South-South S&T cooperation, including helping developing countries to develop adaptation technologies/techniques and associated technology transfer.

During the meeting, participants shared the experience on South-South S&T cooperation in addressing climate change issues, and discussed the priority areas, mechanism, and models for such cooperation, existing problems, and future collaboration activities. Participants reached consensus on technology development and associated transfer. The exchange center will open a website ([www.cstec.org.cn/en](http://www.cstec.org.cn/en)) to facilitate the South-South S&T cooperation.

## NEWS BRIEFS

### China's Electric Vehicles Hit 1 Million in 2020

WAN Gang, Chinese Minister of Science and Technology said on Oct. 16, 2010 that as the largest auto producer and consumer in the world, China has to take the road of developing new energy vehicles, or electric cars to be specific. China will be able to produce 1 million electric cars in 2020.

WAN said that Ministry of Science and Technology, Ministry of Finance, National Development and Reform Commission, Ministry of Industry and Information Technology jointly launched in 2009 a campaign to introduce a thousand electric automobiles in ten major cities, in an effort to transform urban buses, a heavy polluter, in the first place, a

and realize the industrialized production of key components for electric automobiles, including batteries and engines.

Meanwhile, electric buses will be serviced and maintained together, ensuring the quality of the products. Preliminary statistics show that up to date, the venture capital that entered the electric automobiles market has reached RMB 8.5 billion in amount.

## International Wind Energy Conference

An International Wind Energy Conference and Show was staged from October 13 to 15, 2010 in Beijing. Some 500 participants from the National Development and Reform Commission, Ministry of Science and Technology, Ministry of Industry and Information Technology, National Energy Administration, World Wind Energy Council, China Renewable Energy Society among others, and manufacturers and vendors from 23 countries or regions, attended the meeting. Participants exchanged views on a range of related issues, including the development trends, technological hurdles, and policies in the area.

China's wind power industry has gained an accelerated development pace since the 11th five-year period, with a doubled growth of installed capacity for five consecutive years. In 2009, China's installed wind power capacity exceeded 25 million kilowatts, second in the world. Three major Chinese wind turbine makers, including China Huarui, Jinfeng, and Dongfang Electric, have been listed among the world's top ten wind turbine makers. The meeting and show facilitated technology exchanges in the area, allowing China to turn itself from a large wind power country into a technological giant in the area.

## Aligned Astronomical Observing Network

It is reported from a Chinese Academy of Sciences working meeting on international S&T cooperation that China will establish an integrated astronomical observing network able to align observations from land, space, and poles in 2020. At present, China is building a 500-meter coronal active reflector, the largest of its kind in the world, and is part of the international TMT project. China is also planning to build an observatory in the South Pole, and a LAMOST telescope in the south hemisphere

China strives to land breakthroughs in producing its own astronomic satellites in 2020, taking advantage of its space technologies and satellite payloads, establishing an integra



ted astronomical observing network able to align observations from inland to poles in 2020, boosting its cutting edge research capability, and making itself a major research force with enhanced international visibility in the area of astronomy.

## Largest Industrial Cloud Computing Platform

Not long ago, the Computing Center, part of Beijing Academy of Science and Technology, developed a super industrial platform for cloud computing, able to perform a hundred trillion floating-point operations per second. Made up of 42 cabinets and 436 servers, the platform is able to offer a hundred trillion floating-point operations per second with the help of 4,668 cores, enjoying a leading position in the world either in terms of its scale, energy consumption management, networking, or design. Designed with a three-level energy efficiency structure, the platform has found applications in DNA sequencing, seismological engineering, automobile collision simulation among others.

## Nature Museum for Tibet

China started to build a natural science museum on October 8, 2010 in the Tibet Autonomous Region, with an investment worth RMB 442.5 million. The Museum is designed to serve multiple public good interests, making it a center for education, scientific research, collection, recreation, and tourism.

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