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Headline News

Hu sees major role for science

President Hu Jintao focused on sectors that will play a major role in science and technology during a keynote speech in Tianjin on Tuesday to the Academy of Sciences for the Developing World.

The academy, based in Italy, changed its name in 2004 from Third World Academy of Sciences. It is an umbrella organization for leaders in the science and technology field in developing countries.

Hu, in his address to the academy, highlighted the breakthrough potential for prime research fields, including biology, energy and space technology.

Hu pointed out that in 2006 China published a science and technology development plan plotting strategy up to 2020. This listed projects that will ensure China plays a leading role in the sector. China still faces challenges, especially in sustainability and tackling income disparity

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and that is why the economic development pattern must change. The targeted technologies will help in this endeavor. Cooperation with other developing countries was extremely valued, particularly in dealing with common problems such as the prevention of infectious diseases.

(Source: China Daily)

S&T Management Information

Targets in the 12th Five-Year Plan Period

◎ By 2015, the country's energy consumption per 10,000 yuan of the GDP will be reduced to 0.869 tons of coal equivalent (based on prices in 2005), which is 16 percent lower than the 1.034 tons of coal equivalent in 2010 and 32 percent lower than the 1.276 tons of coal equivalent in 2005. In the 12th Five-Year Plan period, 670 million tons of coal equivalent of energy will be saved.

◎ In 2015, the country's chemical oxygen demand and emissions of carbon dioxide will be controlled at 23.48 million tons and 20.86 million tons, respectively, 8 percent lower than the 25.52 million tons and 22.68 million tons in 2010.

◎ Emissions of ammoniacal nitrogen and nitrogen oxides will be controlled at 2.38 million tons and 20.46 million tons respectively, which are 10 percent lower than the 2.64 million tons and 22.74 million tons in 2010.

(Source: 12th Five-Year Plan on Energy Saving and Emission Reduction)

Progress made in the 11th Five-Year Plan Period

◎ The energy consumption elasticity coefficient dropped to 0.59 from 1.04 in the 10th Five-Year Plan (2001-05) period, saving energy of 630 million tons of coal equivalent.

◎ Emissions of carbon dioxide were reduced by 1.46 billion tons.

(Source: 12th Five-Year Plan on Energy Saving and Emission Reduction)

R&D Targets

China aims to become a world technological power by 2049 and strives to be a leading nation in innovation and scientific development, according to a government document released on September 23, 2012.

The Communist Party of China Central Committee and the State Council, the nation's cabinet, released the document to give opinions on "deepening technological system reform and accelerating national innovation system construction." The document sets the goal for the country to be "in the ranks of innovative nations" by 2020.

China's R&D funds nationwide should reach 2.2 percent of GDP during the 12th Five-Year Plan (2011-15) period, and more than 2.5 percent by 2020, it says.

The document also pledges that the nation's technological plan will be more open to the outside world in terms of cooperation, and international academic institutions and multinational companies are encouraged to set up R&D centers in the country.

(Source: Beijing Review)

MOST proposed Several Opinions on Promoting the Development of National High-tech Zones

The Ministry of Science and Technology(MOST) proposed Several Opinions on Promoting the Development of National High-tech Zones in China. Recently, MOST held a forum in which leaders participated from 12 departments including the Ministry of Education, the Ministry of Finance, the Ministry of Land and Resources, the Ministry of Housing and Urban-Rural Development, and the State Administration of Taxation to discuss those opinions. Hu Shihui,the deputy director of the Department of High and New Technology Development and Industrialization (most) made an explanation on the drafting work of those opinions. All the representatives in the forum spoke highly of the policies proposed by those opinions, and believed that those policies will have played an active role in guiding the construction of high-tech zones and facilitating the local economic development.

The document was drafted by the Ministry of Science and Technology to put the requirements into practice, which are proposed by Opinions on Playing the Role of Scientific and Technological Support in Facilitating the Steady and Rapid Economic Development by the State Council,leading the development of hi-tech industries for national hi-tech zones, supporting the agglomeration and radiation effects and leading role for local economic growth,and then further propelling the construction and development of hi-tech zones under the new situation.

(Source:www.most.gov.cn)

17 provincial hi-tech zones were upgraded into national hi-tech zones

Recently, 17 provincial hi-tech zones were upgraded into national hi-tech zones via the approval of the State Council, and hence there are now 105 national hi-tech zones in China.

The 17 newly upgraded national hi-tech zones are: Jilin Changchun Jingyue Hi-tech Zone, Zhejiang Wenzhou Hi-tech Zone, Hunan Hengyang Hi-tech Zone, Sichuan Leshan Hi-tech Zone, Fujian Putian Hi-tech Zone, Shandong Taian Hi-tech Zone, Henan Xinxiang Hi-tech Zone, Yunnan Yuxi Hi-tech Zone, Shaanxi Yulin Hi-tech Zone, Liaoning Benxi Hi-tech Zone, Hebei Chengde Hi-tech Zone, Anhui Maanshan Cihu Hi-tech Zone, Jiangsu Xuzhou Hi-tech Zone, Hubei Xiaogan Hi-tech Zone, Jiangxi Yingtan Hi-tech Zone, Jiangsu Changzhou Wujin Hi-tech Zone, and Shaanxi Xianyang Hi-tech Zone.

(Source:www.most.gov.cn)

Scientific Research Progress and Achievements

MOST proposed the Special Planning for Technological Development of China's Broadband Network

In order to further implement the Outline of National Medium and Long-term Planning of Scientific and Technological Development (2006-2020), and to accelerate the promotion of technological innovation and industry development for broadband network, the Ministry of Science and Technology(MOST) formulated the Special Planning of 12th Five-Year Plan for Technological Development of China's Broadband Network.

In accordance with the main points of development from the Outline of National Medium and Long-term Planning of Scientific and Technological Development (2006-2020) and the Decision on Accelerating the Cultivation and Development of Strategic Emerging Industries by the State Council, the special planning points out that through using the knowledge innovation and technological innovation to drive innovation development of broadband network industry as the acting point and in face of the great national demands,the implement ation of the guiding strategy for broadband network innovation should accelerate the facilitating of the whole innovation on key techniques, core components and complete equipments for the broadband network, substantially enhancing the core competence of the broadband network industry to ensure the same pace with the world during China’s significant reform in broadband network technology, effectively support the infrastructure construction of national broadband network, and propel the comprehensive extension of three-network integration so as to realize the leapfrog development of China’s information network and business application.

(Source: www.most.gov.cn)

A Treasure Trove of Resources

China will accelerate shale gas industrialization to meet the nation's energy demand

Looking to satisfy its growing fuel demands, China is turning to shale gas, natural gas trapped within rock formations.

"China has huge reserves of shale gas. If successful industrialized production is realized, it would significantly ease the nation's energy strain," said Li Shousheng, deputy head of the China Petroleum and Chemical Industry Federation.

Staff members of Sinopec work on the shale gas exploration well in Qiaotouhe Town, Lianyuan, Hunan Province, on January 7

China has about 20 percent of the world's total shale gas reserves, the largest in the world, according to a report published by the Ministry of Land and Resources (MLR) on July 23.

The top five countries with the largest minable shale gas reserves are China, the United States, Argentina, Mexico and South Africa.

China's interest in shale gas exploration is increasing with an estimated output of 6.5 billion cubic meters expected by 2015. From 2016 to 2020, the country will enter a fast-growth period in shale gas exploration and development, Liu Tienan, head of the National Energy Administration, said.

Shale gas is formed by gas trapped within shale formations. With methane as its main ingredient, it is a clean and efficient source of energy. The gas is collected through a complicated process called hydraulic fracturing, or fracking. The gas has become an increasingly important source of natural gas and may transform the world's future energy outlook.

(Source: Beijing Review)

First homemade computer with CPU of petaflops verified for acceptance

In the morning of Sep. 11th, China's first supercomputer system with petaflops that are entirely made from homemade CPU and homemade basic software- "System Development for Shenwei Languang High-performance Computer with Petaflops" (Shenwei Languang for abbreviation) got through the inspection and acceptance by experts in Jinan. The expert group in which there is Li Bohu, the academician of CASIC as the group leader and

Shen Xubang, the academician of 711 Spacecraft Station, believes that as the major project of "high-performance computer and grid service environment" in the field of information technology for the National 863 Plan, "Shenwei Languang" has the world's advanced level in the aspects of high-density assembly technology and system-wide water-cooling technology.

The task is jointly undertaken by National Research Center of Parallel Computer Engineering Technology, Shandong Academy of Sciences, Langchao (Beijing) Electronic Information Industry Co., Ltd, and Jinan Center of National Supercomputing.

"Shenwei Languang" possesses four highlights: Firstly, it applies homemade CPU and it is the first supercomputer with petaflops that entirely applies homemade CPU in China's history. Secondly, it has perfect stability. After over 9 hours' Linpack test, there is no fault in the whole process. The third is the water-cooling system. The water takes the main-board heat from the closed water circulation in the cold plates, and there is nearly no water consumption or noise. Hence it is advanced and environment-friendly. The last highlight is that it is packed in a high density which means that the petaflop scale can be easily realized by using only 9 machinery rooms with 1024 CPUs for each machinery room.

(Source: Science and Technology Daily)

The major project of energy saving and new energy automobiles for 863 Plan passed acceptance check

On Sep. 14th, the Ministry of Science and Technology convened the conference for acceptance check on the major project of energy saving and new energy automobiles for 863 Plan in 11th Five-Year Plan. Wan Gang, the minister of MOST attended the meeting. Representatives from ministries,enterprises and institutions coucerned also attended the meeting.

In the past five years, focusing on the requirements of the project, China's new energy automobile industry have made a leapfrog development with the joint efforts of politics, industry, education and research. 270 task-items in aspects of key components, power system, vehicle integration, testing platform, demonstration for extension as well as standardization policy research have been arranged with focus on breaking through the bottleneck techniques for key components and supporting the demonstration and extension for industrialization by taking the vehicle integration as the carrier and the power system as the core. The total investment of the project including the funds from local governments and enterprises exceeds 7.5 billion Yuan, among which 1.16 billion Yuan is the state funding.14,600 scientific and technical personnel from 432 units including automobile and its parts enterprises, research institutes, universities and colleges have participated in the research, building up an innovation system of joint development with industry, education and research for China's electric automobiles.

(Source: Science and Technology Daily)

Sino-German:New cooperation fields

As green energy is an inevitable trend of the future, China has also increased input in the field in recent years and made much progress.

In fact, China and Germany have the potential to complement each other in clean and renewable energy. Germany has a technical advantage while China's labor cost is relatively competitive. The large demand for new energy products in China also provides German products with a huge potential market. The two sides might also pursue cooperation in environmental protection, high technology transfer as well as energy security.

ACROSS THE AISLE: Chinese Premier Wen Jiabao and German Chancellor Angela Merkel have a chat aboard the 100th Airbus 320 airplane, which was recently completed in a Tianjin assembly plant, on August 31, 2012

(Source: Beijing Review)

CAS Head Goes Global

Bai Chunli, President of the Chinese Academy of Sciences (CAS), was elected President of the Academy of Sciences for the Developing World, formerly the Third World Academy of Sciences (TWAS), at the General Meeting of the Academy held in north China's Tianjin on September 18, becoming the first Chinese scientist to assume the post. Bai will take office on January 1, 2013.

The TWAS was established in 1983. It is a non-governmental, non-political and non-profit international science organization sponsored by the UN Educational, Scientific and Cultural Organization. It holds an academician conference each year and an academic conference every two to three years. Currently, it attracts nearly 1,000 academicians from 90 countries and regions.

Bai, an expert on nanotechnology, has been engaged in the research of his field since the mid-1980s and has made significant achievements.

(Source: Beijing Review)

Introduction II of international scientific and technological cooperation bases

Chinese Academy of Tropical Agricultural Sciences

Founded in 1954, Chinese Academy of Tropical Agricultural Sciences was one of international scientific and technological cooperation bases approved by the Ministry of Science and Technology. Belonging to the Ministry of Agriculture, it is a national scientific research institution that specializes in the research and development on tropical agriculture. There are 14 research institutions (stations, centers) distributed in Hainan and Guangdong provinces, possessing over 30 scientific research platforms covering national engineering and technological centers, cultivation bases for national key laboratories, key development laboratories of the Ministry of Agriculture and one post-doctoral research center. At present, there are over 3,000 staffs, over 2,000 for scientific researchers and nearly 300 senior researchers.

The scientific research on tropical agriculture in the academy enjoys high reputation at home and abroad. Especially some research achievements in the basic research on tropical crops such as cassava, rubber and bananas, have reached the international advanced level. In the aspect of applied research, there are over 900 scientific and technological achievements, including nearly 40 national awards such as the first prize for national invention and the first prize for national progress in science and technology, 300 awards at ministry and provincial level, 174 species from the development of technology products, and 68 patents.

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Cooperation Projects and Channels

The 3rd International Symposium on Rare Earth Resource Utilization (ISRERU-3) and The 3rd Special Symposium on Advances in Functional Materials (AFM-3)

- Organizers: Changchun Institute Of Applied Chemistry,Chinese Academy Of Sciences
- Date: December 9-12, 2012
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(Source: Chinese Academy of Sciences)