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Updates of International S&T Cooperation

Sino-Czech MOU on Joint R&D Signed

On March 28-30, 2016, Chinese President Xi Jinping paid a state visit to the Czech Republic. The two countries issued a Joint Statement on Establishing

Strategic Partnership. According to the statement, the two sides expressed their will to encourage, expand, and promote cooperation in areas of science, technology

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and innovation. The focus will be put on cooperation of applied research and experimental development in new materials, biotechnology, nanotechnology, and environmental technology.

On March 29, in the presence of both President Xi Jinping and Czech President Milos Zeman, the two countries officially signed the Memorandum of Understanding on Supporting Joint Research & Development between the Chinese Ministry of Science &

Technology and the Czech Ministry of Education, Youth and Sports. According to the MOU, the two sides will both provide support to research institutions, universities, and businesses of the two countries for engaging in joint R&D and cooperation on the applications of achievements in the agreed priority areas.

(Source: Website of China International Science and Technology Cooperation, March 31, 2016)

Minister Wan Gang Meets U.S. Energy Secretary Moniz

On March 16, 2016, Chinese Minister of Science and Technology Wan Gang met with visiting U.S. Energy Secretary Ernest Moniz. Wan Gang gave a briefing on the five key development concepts rolled out at the Fifth Plenary Session of the 18th CPC Central Committee, namely, innovative, coordinated, green, open and shared development, citing science, technology and innovation as the important foundation for realizing the aforesaid concepts. China and the United States have conducted practical, effective cooperation through bilateral and multilateral mechanisms including the Clean Energy Ministerial (CEM) and China-U.S. Clean Energy Research Center (CERC), Wan Gang Wan said. He hopes

the two sides will further their cooperation in the future, contributing to socioeconomic development of both countries. Also, he briefed on the latest development of R&D and industrialization in electric vehicles in China.

Secretary Moniz spoke highly of China's contribution to CEM and Mission Innovation. He said CERC has won high praise from leaders of both sides. With successful cooperation in energy efficiency of medium- and heavy-duty trucks, Moniz hopes the two sides will form as soon as possible a consortium integrating enterprises, universities and research institutes in the area.

(Source: Website of Chinese Ministry of Science & Technology, March 23, 2016)

China and Israel Deepen Innovation Cooperation

On March 29, 2016, the Second China-Israel Joint Committee on Innovation Cooperation (JCIC) was held in Jerusalem. The meeting was presided over by Chinese Vice Premier Liu Yandong and Israeli PM Netanyahu. China regards innovation-driven development as a national strategy, Vice Premier Liu said. Given that China and Israel share a highly identical concept of development, the two sides face a promising prospect of future cooperation. The two sides should strengthen the JCIC's role in planning and coordination, tapping the potential and possibilities of cooperation in innovation.

Vice Premier Liu made four proposals.

First, matching innovation strategies. The experience and expertise of Israel as an "Innovation Nation" will be integrated with China's Innovation-driven Development Strategy, with more growth poles created for both sides.

Second, expanding practical cooperation. While proceeding with the construction of China-Israel Changzhou Innovation Park, support will be given to provinces and cities with mature conditions in Guangdong, Shandong and Henan in building with Israel an array of innovation parks.

Third, strengthening exchange and communication. As China is vigorously proceeding with institutional reform in the aspect of science and technology (S&T) and given that Israel has full-fledged system for management of science and technology, it is hoped that the two sides could strengthen policy dialogues, draw on each other's experience and enhance the efficiency of S&T management.

Fourth, enhancing joint research of key projects. The two sides should continue to strengthen frontier research and increase funding for joint R&D. We should build together a number of joint labs, joint research centers, incubators and trade platforms, tapping together the global

market. Also, the two sides should ensure transformation and sharing of achievements in science and technology, allowing peoples of the two countries and even the whole world to benefit more from such efforts.

Vice Premier Liu and PM Netanyahu were both present at the website launching ceremony of China-Israel Innovation Cooperation Center and the release of Israel Changzhou Initiative, witnessing the signing of 13 agreements involving visa arrangements, joint research, agriculture, higher education, culture, among others.

(Source: Science and Technology Daily,
March 31, 2016)

Reform of S&T System in the 12th Five-year Plan

During the 12th Five-year Plan, the Ministry of Science and Technology worked together with other departments to fulfil the goal of institutional reform in the sector of science and technology. Significant progress has been made in the following aspects:

First, we have already had policies that outline the long-term plan of reform and development in the science and technology. The CPC Central Committee and the State Council have issued *The National Outline of Innovation-driven Development Strategy* and *The Guidance on Deepening Institutional Reforms to Implement Innovation-driven Development Strategy*. Also, the CPC Central Committee and the State Council have issued *The Implementation Plan for Deepening S&T Institutional Reforms* and *The General Plan of Systematic Promotion of the Pilot Innovation Reform*. These documents are basic policies for deepening reforms and advancing innovation during the period of the 12th Five-year Plan.

Second, we will promote management reform of S&T programs under the central budget in full swing, allowing the new mechanism and system to take shape more quickly. The allocation of S&T resources will be restructured to improve the efficiency of fiscal funds. This should be accomplished according to two documents, i.e. *The Plan on Deepening Management Reform of S&T Initiative under the Central Budget* and *The Guidance on Improving and Strengthening Management of Research Projects and Funds under the Central Budget*. At the moment, we have basically finished the construction of an open and unified S&T management platform and reorganized seven professional agencies for project management, with the S&T Management Info System now providing services to the public. On February 16, 2016, we formally launched the National Key R&D Program through integration of the existing 973 Programs and the 863 Programs. The projects used to be managed by the ministries, but now the management is taken over

by seven professional agencies, including the whole process management from the initial approval to the final acceptance. As one of the most important parts of the reform, restructuring National Key R&D Program has served as a demo to reform other programs.

Third, we will break institutional barriers to transformation of S&T achievements, injecting a strong impetus into mass entrepreneurship and innovation. On October 1, 2015, the amended Law on Promoting the Transformation of Scientific and Technological Achievements was promulgated with big institutional breakthroughs made, including delegating power of dealing with earnings of S&T achievements, strengthening motivation system for people, complementing the system of performance evaluation, enhancing services of technological transactions, releasing information on S&T achievements, etc. In a follow-up document, major policies and practicable measures were clarified to enforce the Law. Meanwhile, with pilot projects in some institutions, we will reform the ownership of S&T achievements and promote incentive measures in the form of shareholdings.

Fourth, we have improved the mechanism of coordinated innovation with greater efficiency of the innovation system. Now enterprises have higher innovation capacity through in-depth implementation of national technology innovation projects. In 2015, corporate R&D expenditure accounted for over 77% of the gross domestic expenditure on R&D, with the total number of high-tech enterprises hitting 79,000. We have basically created the National Research Equipment Database and the unified National Online Management Service Platform for Research Facilities. For instance, more than 40,300 units or sets of equipment and instruments (worth RMB20.9 billion) are available to the society now; Shandong Province gave SMEs over RMB30 million worth subsidies in the form of innovation

coupons. Meanwhile, we have deepened reform of the S&T appraisal and awarding system to allow the S&T personnel to further release their innovative and creative potential. In deepening reform of S&T awarding system, we have improved quality, reduced amount, optimized structure, and standardized procedure. Also, there should be pilot programs on performance assessment of research institutions.

Fifth, we have optimized the layout of regional innovation systems. Now, there are a total of 11 National

Innovation Demonstration Zones and 146 New High-tech Development Zones across the country. They have become the growth pole that leads the transformation and upgrading of regional economy. They also contribute 39.7% of national corporate R&D input, 40.6% of corporate research personnel, 48.7% of domestic corporate patents granted, and 31.2% of technical transactions.

(Source: Science and Technology Daily,
March 4, 2016)

Breakthroughs in S&T System Reform during 12th Five-year Plan

1. Resource allocation

The first batch of secondary funds for start-up investment was established under the guiding fund for transformation of S&T achievements. In the 16 pilot areas of integration of science & technology with finance, the increase of S&T loans has been over RMB 1.2 trillion. The R&D expenditure of whole society hit RMB 1.422 trillion, among which such expenditure from businesses accounted for over 77%. The supportive policies for innovation have played an enormous role of motivation and leverage. Compared with 2011, the tax reduction and exemption for new and high-tech businesses in 2014 has grown by 2.5%, with the amount of taxpaying increased by 15%. A total of 80,000 new and high-tech companies have registered an increase of 12% for prime operation revenue, amounting to RMB 21 trillion.

2. Management Reform

The central fiscal budget is more focused on fundamental research, strategic frontiers, social public undertakings and major projects. We continue with the optimization and integration in a concrete manner, creating “one platform”. The joint meeting system has been put in place among over 30 government bodies used to manage research funding. With professional institutions taking over project management, now we have set up a monitoring and assessment system embedded into every link of the management. The key R&D program has been formally launched, further sharing S&T resources and gradually improving the S&T reporting system.

3. The Transformation of S&T Achievements

So far, we have made big institutional breakthroughs in delegating power of dealing with earnings from S&T achievements, strengthening incentive mechanisms, complementing the system of performance evaluation, enhancing services of technological trade, promoting the transparency of information of S&T achievements etc. During the transformation of S&T achievements, institutional arrangements have been made regarding due fulfillment of job duties, off-the-job start-up, earnings of achievements, technology market and S&T services.

4. Human Resource Development

The systematic implementation of academician system reform has been under way. Human resources plans such as Thousand People Plan and Ten Thousand People Plan have effectively promoted the recruitment and training of high-end human resources. In the past five years, the total number of returned students hit over 1.1 million, three times that of the total 30 years ago. Meanwhile, much progress has been achieved in building up younger teams of scientific research, with mechanisms being continuously improved for employment, training, and motivation.

(Source: Science & Technology Daily,
March 4, 2016)

Substantial Progress in Reform of S&T Program Management

On Jan. 20-21, the preliminary review meeting was held in Beijing for the project of stem cells and application of research results. This is the first project under formal review of the first batch of six pilot projects ever launched since the reform of managing S&T programs (special projects and funds) under the central fiscal budget.

In order to ensure quality of review, China National Center for Biotechnology Development worked together with the Department of Basic Research and other departments concerned under the Ministry of Science and Technology to create a talent pool of over 1,500 renowned experts dedicated to stem cell and its application. The preliminary review adopted the mode of peer review in group meetings and the experts were chosen from the talent pool of MOST according to relevant regulations. The selection criteria were compiled based on counseling with leading experts within the industries. Altogether, 81 experts participated in the preliminary review meeting. During the preliminary session, Vice Minister of Science and Technology Hou Jianguo met and talked with the review experts and those from the scheme preparation team, asking for their advice and suggestions on advancing the institutional reform on the part of the Ministry of Science & Technology. Also, he listened to the experts' detailed comments on compilation of the guide to projects, organizational form of project review, format of project proposal, and applicability of the project review system.

The project of stem cell and its application is the top pilot project of its kind, said a program officer of China Biotechnology Development Center. The process, rules and mechanism all need to be involved in the project and the new model of optimized project management should be explored and created in a bid to provide experience for the reference of professional institutions of project management. Different models have been used for project application and review under the guidance of the Ministry of Science & Technology; two times of application and two sections of review have been adopted on a pilot basis while reform is being explored in specific stages of review and approval. In light of the characteristics of projects, the Center advanced the model of integrated organization and implementation and classified management as well as the manner of overall advancement and step by step implementation. Meanwhile, the quick response mechanism for project deployment has been explored and created in light of the fact that fundamental research of stem cell projects usually proceeds very quickly and new trends and technologies keep emerging. During the current preliminary review, each critical stage of review of the stem cell and application of research has been disclosed to the public in a bid to embody openness, transparency and monitoring by the general public.

(Source: Science & Technology Daily,
January 22, 2016)

CPC Central Committee Issues Guideline on Deepening Reform of Talent Development Mechanism

Recently, the CPC Central Committee issued The Guideline on Deepening Reform of Human Resource Development (hereinafter referred to as the Guideline). The Guideline says that by 2020, breakthroughs should have been made in important areas and critical links of human resource development through deepening reforms. The main points are as follows:

We will proceed with reform of human resource management and transform the government's function of HR management, ensuring and realizing independence of the employers. We will improve the HR service system oriented to market and society while strengthening legal efforts concerning talent management. Also, detailed laws and regulations will be promulgated to cover work permit,

visa, residence, and permanent residence of foreigners in China.

We will improve the supportive system of education and training and reinvent the model of education, strengthening forecast of HR demand to accelerate the training of personnel for key sectors, major fields, and strategic emerging industries. More attention will be paid to the cultivation of awareness and capabilities of innovation so that we will explore and create a system of education and training oriented to innovation and entrepreneurship, complementing the concerned model of education linking institutions of higher learning with various sectors concerned.

We will create a long-term stable mechanism for training personnel in the field of fundamental research, providing greater support to talents in emerging industries and those badly needed in key areas of research and in companies. We will give support to the founding of new R&D institutions and encourage talents to choose for themselves areas of research and organize research teams to conduct pioneering fundamental research as well as demand-oriented R&D. We will create a new mode of personnel training that features integration of production and teaching and collaboration of colleges and universities with businesses. More efforts will be made in training a team of highly skilled technicians underpinning products made in China, thus promoting the development of modern vocational education.

We will make it possible for outstanding young people to get the opportunities they deserve, creating supportive measures in the best interest of youths in general. Greater support will be provided for young talent education and training for those in areas of education, science & technology, and other categories of HR projects. The special project of young people cultivation will be included in the national major HR program. We will modify the postdoctoral system to ensure the independence of institutions of higher learning, research institutes, and businesses in recruiting and training postdoctoral fellows. The eligible postdoctoral research stations that meet the required conditions can recruit postdoctoral fellows on their own. Besides, we should enlarge our horizons to orient ourselves to the world,

attracting top-notch young talents from other countries to China for postdoctoral work.

We will reinvent the HR appraisal system, prioritizing moral, competence and performance while improving the manner of personnel appraisal and review. A smooth channel for human resource mobility will be created to promote proper flow of human resources and effective distribution regardless of permanent residence status, locations, identity, education, and employment contract etc. The system of prioritized permission of permanent residence status will be created in favor of top-notch experts and specialists recruited and human resources in severe shortage.

We will strengthen the HR motivation mechanism for innovation and entrepreneurship, improving IPR protection for results of innovation and giving more motivation to human talents of innovation. We will ensure the independence of institutions of higher learning, research institutes in dealing with use, disposal, and earnings management of S&T achievements. With permission from their workplace, research personnel of colleges and universities as well as research institutes will be allowed to work part-time in technology-based enterprises and entitled to compensation according to relevant laws and regulations. Institutions of higher learning and research institutes will be allowed to reserve some unfixed positions for such purposes.

We will create an internally competitive system of HR recruitment and employment, supporting competent colleges and universities, research institutions, and businesses in running institutions of education and research and recruit local top-notch talents. An international HR cooperative organization will be founded to promote exchanges and cooperation among international talents.

We will institutionalize the HR prioritized development guarantee system to promote in-depth integration of human resource development and socioeconomic development, providing continuously guidance and services for talent solidarity education.

(Source: Science & Technology Daily,
March 22, 2016)