

Translation



The following document, issued by the PRC Ministry of Education in 2016, establishes guidelines for how Chinese universities should convert their research breakthroughs into commercial or otherwise practical use. The document offers suggestions regarding the tricky problem of how to appraise the value of technological innovations, and attempts both to allow university professors to serve part-time or as adjuncts at corporations and to prevent the conflicts of interest that can arise from such arrangements.

Title

Certain Opinions of the Ministry of Education and the Ministry of Science and Technology on Strengthening Work to Transfer and Convert the Scientific and Technical Achievements of Institutes of Higher Learning
教育部科技部关于加强高等学校科技成果转化工作的若干意见

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Source

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To the education departments (or education commissions) and science and technology (S&T) departments (or S&T commissions) of all provinces, autonomous regions and province-level municipalities, to the Education Bureau and the Science and Technology Bureau of the Xinjiang Production and Construction Corps, and to institutions of higher education directly under the Ministry of Education:

In accordance with the *Law on Promoting the Conversion of Scientific and Technological Achievements*, *Certain Regulations on Implementing the "Law of the People's Republic of China on Promoting the Conversion of Scientific and Technological Achievements"* of the State Council, and the *Action Plan for Promoting the Transfer and Conversion of Scientific and Technological Achievements* of the General Office of the State Council, taking into account the actual circumstances of institutes of higher learning ("universities"), the following opinions are put forward in order to deeply implement the spirit of *Several Opinions of the Chinese Communist Party (CCP) Central Committee and the State Council on Deepening the Reform of Systems and Mechanisms to Accelerate the Implementation of the Innovation-Driven Development Strategy*, *Opinions of the CCP Central Committee on Deepening the Reform of Talent Development Systems and Mechanisms*, and *Notice of the General Office of the CCP Central Committee on Issuing the Implementation Plan for Deepening S&T Structural Reform*, and to push universities

to accelerate the transfer and conversion of S&T achievements into practical applications (科技成果转移转化).

I. Fully understand the S&T achievement transfer and conversion work of universities. The conversion of S&T achievements into practical applications being an important part of universities' S&T activities, universities must guide scientific research work and economic and social development toward closer integration, and provide a steady stream of effective achievements to support the development, transformation and upgrading of the economy and society. Universities must reform and refine S&T evaluation and assessment mechanisms, so as to promote the conversion of S&T achievements into practical applications. In their work with regard to the transfer and conversion of S&T achievements into practical applications, universities must both (1) focus on technology trading, conversion of technology into shares based on assessed value, and other forms for the transfer and conversion of S&T achievements into practical applications, and (2) intensify the combining of industry, universities and research institutes to support S&T personnel in carrying out enterprise-oriented technology development, technical services, technical consulting, and technical training. They must also innovate in the organization of scientific research, organize S&T personnel in actively undertaking various scientific research planning projects aimed at the nation's needs and at economic and social development, actively participate in the construction of national and regional innovation systems, and provide technical support and policy advice for economic and social development. Universities must serve as the mainstay of talent development, and, even more so, they must guide and motivate scientific research staff to teach and educate people, focus on the dissemination and transfer of knowledge, and promptly convert research achievements into resources for education, teaching, and development of disciplines and majors.

II. Simplify administrative procedures and delegate authority (简政放权) to encourage S&T achievement transfer and conversion. For the S&T achievements in their possession, universities can decide independently among technology ownership transfer (转让), licensing or investment based on assessed value, and except where state secrets or national security are involved, approval and filing are not required. Universities are entitled, in accordance with law, to use the assessed value of the S&T achievements in their possession for confirmation of the equity or capital contribution percentages in conversions into shares, and, by means of a promoter's agreement, investment agreement, articles of association or other modalities, clearly stipulate the ownership, prices, numbers of shares given in conversion, capital contribution proportions and other matters pertaining to S&T achievements, so as to clarify property rights; and designate a professional department for the unified management of the enterprise shares or capital contribution proportions formed from converting the technical achievements into shares based on assessed value. On the precondition that there is no change in the ownership of the S&T achievements concerned, university personnel who have made or participated in making S&T achievements at work may sign agreements with their schools, in accordance with their schools' regulations, to carry out conversion of those S&T achievements into practical applications and enjoy the corresponding rights and interests. All earnings from the conversion of a university's S&T achievements into practical applications shall be retained by the school and included in the unit's budget, and shall not be turned over to State coffers (国

库)。After deducting the awards and compensation given to personnel who made important contributions to the completion and conversion of S&T achievements, [the remainder] should be used mainly for relevant work such as scientific and technological research and development (R&D) and achievement conversion.

III. Establish and improve work mechanisms for the transfer and conversion of S&T achievements into practical applications. Universities must enhance the management, organization and coordination of S&T achievement transfer and conversion. They must: Establish an S&T achievement transfer and conversion leading group (领导小组), and a collective decision-making system for the leadership team with regard to significant matters involving S&T achievement transfer and conversion; carry out overall planning of achievement management, technology transfer, asset management, legal and other matters, and establish an S&T achievement transfer and conversion platform; clarify the management institutions and functions for S&T achievement transfer and conversion, put into effect responsible subjects for S&T achievement reporting, intellectual property (IP) protection, asset management, and other work, and optimize and publicize the workflow for the transfer and conversion of S&T achievements into practical applications.

Universities shall, in accordance with national regulations and the actual circumstances of their schools, establish procedures and rules for the use and disposal of S&T achievements. When transferring S&T achievements to enterprises or other organizations for conversion into practical applications, prices may be determined by means of listing on technology trading markets, auctions and other methods, and pricing may also be done by means of agreements. Where pricing is by agreements, the names of S&T achievements, brief introductions and other basic elements, as well as the proposed transaction prices, price formation process, etc., shall be announced within the school by means of websites, office systems, public bulletin boards or other methods, and the duration of announcements shall be at least 15 days. Universities shall implement a public announcement system for the use and disposal of S&T achievements, and shall also clarify and make public their dispute handling procedures and methods. Where state secrets and national security are involved, execution shall be in accordance with relevant national regulations.

During the process of converting S&T achievements into practical applications, where prices are determined by means of listing on technology trading markets, auctions and other such methods, or pricing is by agreements, and the proposed transaction prices are announced within the university in accordance with regulations, then, under the precondition that the university's leadership performs its due diligence and there are no unlawful gains, they shall be exempted from decision-making liabilities that arise in the pricing of S&T achievements due to subsequent changes in values following conversion of S&T achievements into practical applications.

IV. Strengthen capacity building for S&T achievement transfer and conversion. Universities shall be encouraged to: Establish specialized S&T transfer organizations to be responsible for S&T achievement transfer and conversion work, on the precondition that staffing levels do not increase, or entrust independent S&T achievement transfer conversion services organizations to carry out S&T achievement conversion into practical applications; and

use multiple methods such as training and market-based hiring to establish teams of professional managers for S&T achievement conversion. We shall give full play to the clustering, radiating and driving roles of university S&T parks, regional (professional) institutes, and industry organizations, in the transfer and conversion of S&T achievements into practical applications, relying on them to build platforms for technology trading, investment financing and other support services, carry out linking of technology development with market demand, form market-based systems for S&T achievement transfer and conversion operations, and incubate and build national technology transfer institutions with flexible mechanisms, concentrations of specialized talents, and outstanding service ability. Universities must: Fully utilize the S&T achievement information platforms established by governments at all levels, and strengthen propaganda on, exhibition of, and demonstration of achievements; and encourage scientific research staff to carry out enterprise-oriented technology development, technology consulting and technical services, and other forms of horizontal cooperation, so as to implement joint S&T achievement conversion together with enterprises.

V. Improve earnings allocation policies oriented towards increasing the value of knowledge. Universities must formulate, in accordance with national regulations and the actual circumstances of their respective schools, measures for S&T achievement transfer and conversion awards and allocation of earnings, and make them public within their schools. When formulating measures for S&T achievement transfer and conversion awards and earnings allocations, it is necessary to listen fully to the opinions of school S&T staff, and balance the interests of all the parties participating in S&T achievement conversion, including the school, its departments, those who made the achievements, and professional S&T transfer and conversion institutions.

When universities give awards to people who make S&T achievements at work and other personnel who make important contributions toward the conversion of S&T achievements into practical applications, the following provisions shall be followed: Where technology ownership transfer or licensing methods are used in the conversion of S&T achievements made at work into practical applications, at least 50% of the net income from the technology ownership transfer or licensing should be withdrawn to use for awards; where the use of S&T achievements for investment in exchange for shares is implemented in the conversion, at least 50% of the shares or capital contribution proportions obtained from such technology-for-shares investment should be withdrawn to use for awards; and for personnel who make the main contributions in the research and development of S&T achievements and their conversion into practical applications, their share of the awards shall be at least 50% of the total. After deducting the awards and compensation of the above-mentioned personnel, earnings from the conversion of S&T achievements should be used mainly for relevant work such as scientific and technological R&D and achievement conversion, and for supporting the operation and development of technology transfer institutions.

Where a person serving as the principal leader of a university, or the principal leader of an organization that is affiliated with the university and has independent legal status, is the main accomplisher of an S&T achievement or makes an important contribution to the conversion of the achievement into practical applications, such person may be given cash awards in accordance with the measures for S&T achievement transfer and conversion awards and

earnings allocations formulated by the school, and equity incentives shall not be given in principle; where other S&T personnel in leadership positions are the main accomplishers of S&T achievements or make important contributions to the conversion of S&T achievements into practical applications, they may be given such awards and compensation as cash, shares and capital contribution percentages in accordance with the measures for S&T achievement transfer and conversion awards and earnings allocations formulated by the school. A public announcement and reporting system shall be implemented for the distribution of earnings to S&T personnel serving in leadership positions, to clearly announce the circumstances of their contributions to the completion of achievements or the achievement conversion process, as well as details on the awards, percentages, etc., of proposed allocations.

University S&T personnel shall carry out enterprise-oriented horizontal cooperation activities such as technology development, technical consulting, technical services, and technical training, as this is an important form of S&T achievement conversion, and their management shall be in accordance with the Contract Law and the Law on [Promoting] the Conversion of Scientific and Technological Achievements. Universities shall sign contracts or agreements with collaborating organizations, in accordance with law, stipulating the allocation of tasks, the investment and use of funds, ownership of IP, the allocation of rights and interests, and other matters, and the expenditure of funds will be carried out according to the provisions of contracts or agreements. Net income can be given as awards and compensation to the S&T personnel who complete projects, in accordance with the measures for S&T achievement transfer and conversion awards and earnings allocations formulated by the school. S&T personnel who undertake horizontal scientific research projects and those who undertake government science and technology plan projects shall be treated equally in performance evaluations.

Expenditures on awards and compensation for S&T achievement transfer and conversion shall be included in the organization's total wages for the current year, and are not subject to the limit on the organization's total wages for the current year, nor are they included in the its total wage base.

VI. Refine personnel management systems conducive to the transfer and conversion of S&T achievements into practical applications. S&T personnel of universities, provided they perform the duties of their positions and complete the work of their jobs, may, with the consent of their schools, take part-time positions at enterprises to engage in S&T achievement conversion, or they may take leave for entrepreneurship, for a period not to exceed three years, while retaining their personnel status as employees. In principle, national S&T plan and foundation projects undertaken by S&T personnel may not be suspended during periods of leave for entrepreneurship. Where suspension is truly necessary, procedures shall be handled in accordance with the relevant administrative measures. Universities must establish and refine systems for S&T personnel to hold part-time positions while on the job, or take leave for entrepreneurship and return to their positions and duties. With regard to the duration and remuneration methods for part-time work while on the job, and the duration of leave periods for entrepreneurship and the rights and obligations after the expiry of such periods, as well as the conditions for returning to jobs, they shall prescribe regulations and make them public within their schools. Management of part-time positions held by S&T personnel who serve in

leadership positions shall be in accordance with the relevant regulations of the central government. Universities are encouraged to create specialized S&T achievement conversion positions, and establish corresponding evaluation and engagement systems. Universities are encouraged to create a certain proportion of floating positions (流动岗位), and hire entrepreneurs and enterprise S&T talents with practical innovation experience to engage in teaching and scientific research work on a part-time basis. The Ministry of Education will organize universities in carrying out pilot programs where experience in enterprises is taken as a necessary condition for newly hired engineering faculty, and will step up exchanges between schools and enterprises on the part of professional teachers at application-oriented undergraduate schools and higher vocational schools.

VII. Support student innovation and entrepreneurship. We shall explore establishment of student development mechanisms oriented towards innovation and entrepreneurship, and refine collaborative education models combining industry, academia, research institutes, and users. Universities shall be supported in joining with enterprises and research institutes to establish teaching and research bases for practical training of students, for scientific research practice for graduate students, etc., so as to improve the innovation and entrepreneurship abilities of students. National university S&T parks shall be pushed to: Provide students readily accessible venues for innovation and entrepreneurship, as well as information networks and commercial and legal services; establish micro-innovation labs, innovation and entrepreneurship clubs, etc.; and develop new incubation models such as makerspaces (众创), crowdsourcing, crowd support, and crowdfunding spaces. National university S&T parks shall be encouraged to: Organize entrepreneurs with practical business startup experience, university S&T staff and angel investors in carrying out volunteer activities; provide startup mentoring, as well as technology development cooperation and assistance, for student innovation and entrepreneurship; and prepare case studies of successful innovation and entrepreneurship by students and faculty to serve as teaching materials for university innovation and entrepreneurship, so as to support innovation and entrepreneurship education at universities. We shall strengthen development of IP-related disciplines and majors, and carry out education and training of students on laws and regulations related to the protection of intellectual property rights (IPR). Universities shall be encouraged to adopt the unremunerated patent licensing approach to authorize student use of S&T achievements, and to guide students in participating in the transfer and conversion of S&T achievements into practical applications.

VIII. Promote open sharing of scientific research facilities and instruments. Universities shall be encouraged to join with enterprises, research institutes and other organizations in establishing R&D platforms, technology transfer institutions or technology innovation alliances, so as to jointly carry out R&D, achievement application and promotion, and the study and formulation of standards. Universities shall be supported in joining with local governments and enterprises to construct laboratories and platforms for sharing large-scale instruments and equipment, and in accelerating the open sharing of university scientific research facilities and instruments with other universities, research institutes, enterprises and social development organizations, on the condition that schools are assured of meeting their own basic needs for teaching and research. Relying on R&D platforms built by universities, such as national key laboratories, national engineering laboratories, national engineering (technology) research

centers, large scientific instrument (大型科学仪器) centers, and analysis and testing centers, and in accordance with their functional positioning, an effective mechanism shall be established for opening them to enterprises, especially small- and medium-size enterprises, and efforts to open them to the public shall be intensified, so as to provide service support for the transfer and conversion of S&T achievements into practical applications. Where scientific research facilities, instruments and equipment are made available on a remunerated basis, handling shall be strictly in accordance with national regulations on industry and commerce, price management, etc., with income and expenditures included in the school's unified financial management.

IX. Establish an annual reporting system and performance evaluation mechanisms for S&T achievement transfer and conversion. In accordance with the requirements of the national annual reporting system for S&T achievements, universities shall regularly report to the departments in charge, in the prescribed format, on their annual S&T achievement licensing, ownership transfer, and use for investment based on assessed value, as well as their promotion of industry-academia-research institute cooperation, S&T achievement transfer and conversion performance and awards, and other circumstances, and summarize the overall results achieved and problems faced throughout the year in the transfer and conversion of S&T achievements into practical applications. Universities must establish performance evaluation mechanisms for S&T achievement transfer and conversion, and give awards to institutions and personnel with outstanding performance in the transfer and conversion of S&T achievements into practical applications. The departments in charge of universities must carry out evaluations of the S&T achievement transfer and conversion performance of universities based on their S&T achievement transfer and conversion reporting, and make the evaluation results an important basis for giving support to universities. The S&T achievement transfer and conversion performance of universities shall be included in the assessment and evaluation system for the construction of world-class universities and world-class curricula.¹

X. Effectively strengthen leadership and conscientiously organize implementation. All provincial-level education and S&T administration departments, and all universities, must conscientiously study and implement the profound connotations of [Xi Jinping's phrase] "innovation is the primary driving force for development" (“创新是引领发展的第一动力”), align their thoughts and actions with the major decisions and arrangements of the State Council, and, based on the requirements of these Opinions and their own actual situations, adopt effective measures to accelerate the transfer and conversion of S&T achievements into practical applications. They must effectively guard against moral hazards, the danger of corruption, and legal risk; strengthen supervision and inspection of S&T achievement transfer and conversion work, impose strict accountability for inaction and misconduct, and, for issues of taking advantage of opportunities or misdirecting resources for personal gain, in violation of discipline and the law, they shall be seriously investigated and punished according to law. The Ministry of Education will organize implementation of an action plan to promote the transfer and conversion of S&T achievements into practical applications, and guide universities in

¹ Translator's note: The "world-class universities and world-class curricula" (世界一流大学和一流学科) initiative, abbreviated "double world-class" (“双一流”), was formally launched by the PRC government in 2017 with the aim of increasing the number of Chinese universities that rank among the world's best.

further refining S&T achievement transfer and conversion institutions and mechanisms, so as to provide S&T support and intellectual support for economic and social development.

These Opinions shall be implemented from their date of issuance. If problems arise in the course of implementation, please provide feedback promptly to the Science and Technology Department of the Ministry of Education and the Innovation and Development Department of the Ministry of Science and Technology. Where previous relevant provisions are inconsistent with these Opinions, these Opinions shall be followed.

Ministry of Education

Ministry of Science and Technology

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