

University – Industry Collaboration to Promote Technology Transfer
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The Legal and Regulatory Framework for Innovation and Technology Transfer

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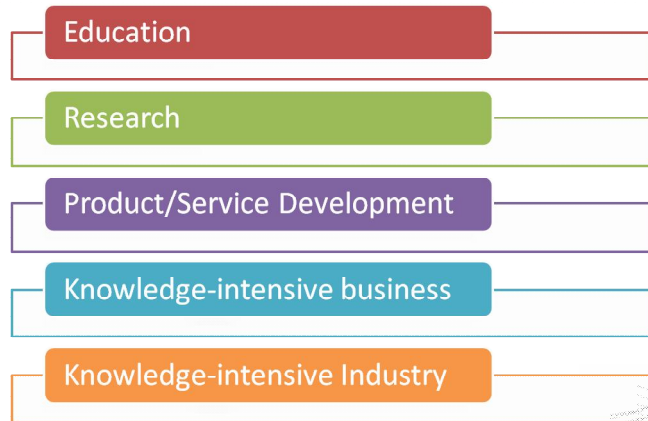
Innovation and Technology Transfer

- **Innovation is a key factor in promoting economic growth and improved social wellbeing. Innovation almost equals national competitiveness.**
- **Technology transfer is incentive to move research into productions/services.**
- **Consequently, policymakers are working hard to develop environments that will foster innovation and technology transfer.**

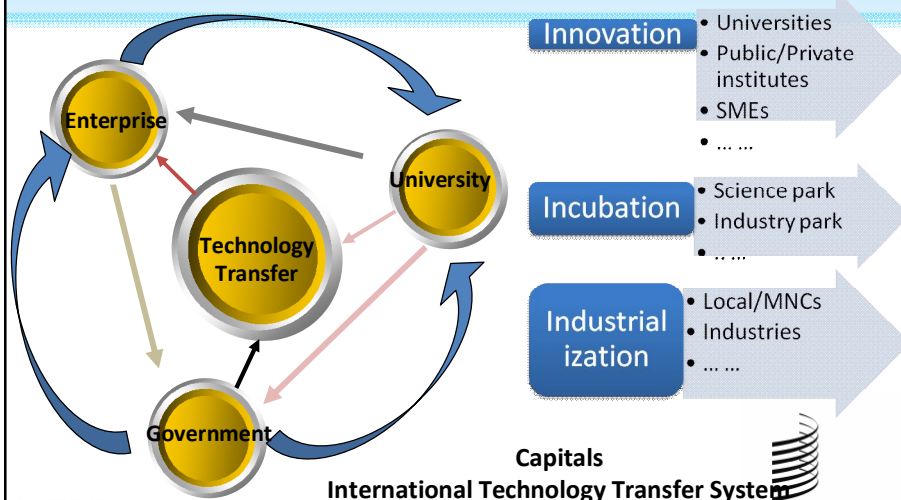
Initiatives and Policies

- **US, eg, Innovate America : Thriving in a World of Challenge and Change (2004)**
- **European, eg, Lisbon Strategy (2000), Aho Report: Creating an Innovative Europe (2006)**
- **Japan, eg, Innovation 25 (2006)**
- **China, eg, Outline of National Medium- and Long-term Science and Technology Development Plan (2006-2020): Building an Innovation-oriented Country (2006)**

Innovation system



Technology Transfer Participates



The Legal and Regulatory Framework for Innovation and Technology Transfer

- A key task is to ensure a balanced development of the innovation system or technology transfer participates and strengthening cooperation within it.
- Increasingly important are also cooperation relationships with other sectors, such as economic, industrial, labor, environmental and regional policies or social welfare and health care services.
- It is important to make sure that all participants can benefit from the innovation and technology transfer activities.



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Some Laws & Regulations in China

- Patent Law of the People's Republic of China (as Amended 2008)
- Law of the People's Republic of China on Science and Technology Progress (2007 Revision)
- Copyright Law of the People's Republic of China (2001)
- Trademark Law of the People's Republic of China (2001)
- Contract Law of the People's Republic of China (1999)
- Law of the People's Republic of China on Promoting the Transformation of Scientific and Technological Achievements (1996)



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Some Laws & Regulations in China

- **Regulations on Promoting the Transformation of Scientific and Technological Achievements (1999)**
- **Regulations of Universities Protection of Intellectual Property Rights (1998)**
- **Law Against Unfair Competition of the People's Republic of China (1993)**
- **Outline of National Medium- and Long-term Science and Technology Development Plan 2006-2020 (2006)**



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China's Innovation System and Its Development

Refer to "Innovation and Technology Transfer", LIU Jian,
International Cooperation Department, The State Intellectual
Property Office of P.R.China,



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Outline of national medium- and long-term S&T development plan(2006-2020)

- maintain long-term and rapid economic growth
- realize sustainable development
- upgrade industrial structure and transform the mode of growth, from resource and labor-driven to innovation-driven economy
- improve national competitiveness

Main Goals -- By 2020, China will be one of the innovation-oriented countries

- The R&D expenditure will be 2.5% of GDP.
- The contribution rate of S&T to economic growth will exceed 60%.
- The dependency ratio for foreign technologies will decrease to below 30%.
- Annual number of granted domestic invention patents and SCI papers will rank among world top 5.

Main Goals – China will build independent innovative capacity

- Capacity to make original innovation in the domain of basic research such as scientific discovery, and technological inventions
- Capacity to integrate existing technology, emerging technology and inventions in order to create new products or business lines with market competitiveness
- Capacity to absorb, digest and improve imported technologies, and to re-create IPR based on these technologies



Main priorities of science and technology innovation

- R&D in the fields of Energy, Water resources and Environment protection
- Improvement of people's living and health standards
- Development and exploitation of the pre-competitive "common" technologies in order to upgrade industrial structure and provide technological support to SMEs
- Reinforcing development and research of basic and pioneering technologies for sustainable development



Further Promote China's National Innovation System

- **Improve the legal framework favorable for innovation**
 - Laws for Promoting Scientific Progress and Commercialization
 - Laws for Enterprise Innovation
 - Intellectual Property Laws

Further Promote China's National Innovation System

- **Make Incentive Policies for Innovation**
 - To adopt favorable public financial policies and to increase R&D input
 - To establish and improve risk capital and investment capital market
 - To set up innovation fund for Science and Technology-oriented SMEs
 - To promote commercialization and technology transfer
 - To cultivate a favorable innovation culture
 - Others

Progress

- China has shot into second place in the world in terms of the number of scientific articles that are published in international magazines by 2010.
- Science Watch ranked China the fourth, following the United States, Japan and Germany, in producing 719,971 research papers on Science Citation Index journals from 2000 to 2010.
- The number of granted domestic invention patent in 2010 ranks No.3 in the world.



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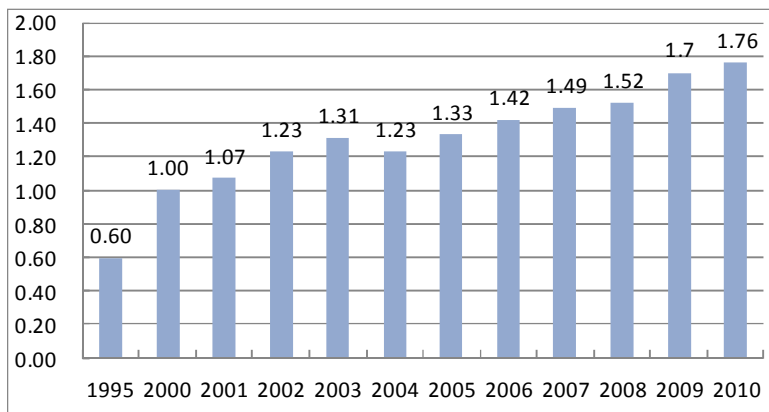
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R&D Expenditure (% of GDP)



24%

Source : China's science & technology statistics and China Statistic Year Books



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"1+6" policy series of Zhongguancun National Innovation Demonstration Zone

- The State Council agreed to further deepen the Zhongguancun pilot reform
- To encourage technology innovation and industrialization of a series of pilot reform policies
 - "1" - building creative platform of Zhongguancun
 - "6" - 6 trial policies to be implemented at Zhongguancun



6 trial policies

- scientific results disposal rights trial policy
- tax beneficiary trial policy
- stock ownership trial policy
- scientific study and research expense management reform trial policy
- high-tech company determination trial policy
- building the curb transaction market trial policy



Development of IPR Protection in China



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IPR Protection can

- **contribute to innovation, transfer and dissemination of technological knowledge -*TRIPS agreement***
- **prevent free-riding of the fruit of innovation**
- **enable commercialization of knowledge and generate returns, thereby encouraging innovation**
- **enable open use of innovation without the risk of being stolen**
- **enable improvements to products or improvement inventions which do not infringe the IPR of the original inventions**



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Facts

- The filings for invention patent from 63,000 in 2001 to 391,177 in 2010, an average annual growth of 22.5%.
- There have a total of 1,222,286 filings for invention, utility model and design in 2010, up by 25.1% than 2009.
- There have a total of 12,917 PCT applications in 2010, up by 61.5% than 2009.
- 1,072,187 trademarks are registered as of 2010, ranking first worldwide for the 9th consecutive year



Compendium of China National Intellectual Property Strategy

- China has implemented its national IP strategy, under which diversified and comprehensive policy tools have been adopted to promote innovation and effective utilization of innovative achievements
 - Establishment of local patented technology exhibition and trade center
 - encouragement of private capital investing in intermediary business for technology trade
 - stimulation of commercial banks to provide IP mortgage loans.



Legislative development

- **Amendment of IP-related laws to meet requirements of TRIPS (2001)**
 - Copyright Law of the People's Republic of China
 - Trademark Law of the People's Republic of China
- **Third revision of Patent law(2008)**
 - Reinforcement of Patent Protection is strengthened

Policy development

- **The Lead Group of IPR Protection of the State Council was established. (2004);**
- **Action Plans of IPR Protection(2006, 2010)**
- **Regulations on the Protection of Computer Software (2001)**
- **Regulations on the Implementation of the Trademark Law (2002)**
- **Regulations of the Customs Protection on Intellectual Property Rights (2004)**
- **Judicial Interpretation by the Supreme People's Court & The Supreme People's Procuratorate on Several Issues of Concrete Application of Laws in Handling Criminal Cases of Infringing Intellectual Property (2004)**

Judicial system

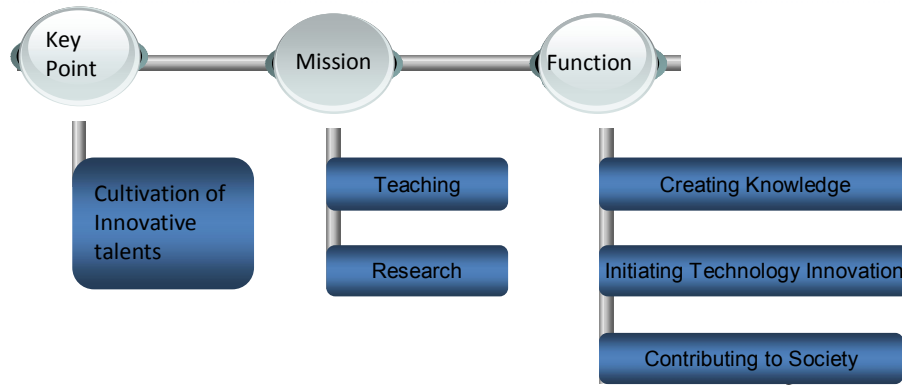
- **Two enforcement mechanisms in protecting patent and other IP rights: administrative measures and judicial civil litigation or criminal prosecution**
- **IP cases are handled by different levels of People's courts**
- **Administrative measures**
 - **Since 2002, local Administrations of Industry and Commerce (AICs) is empowered to order cessation of infringing activities, impose fine, confiscate infringing goods and tools**



Innovation and Technology Transfer System of Tsinghua University



Mission of Tsinghua University

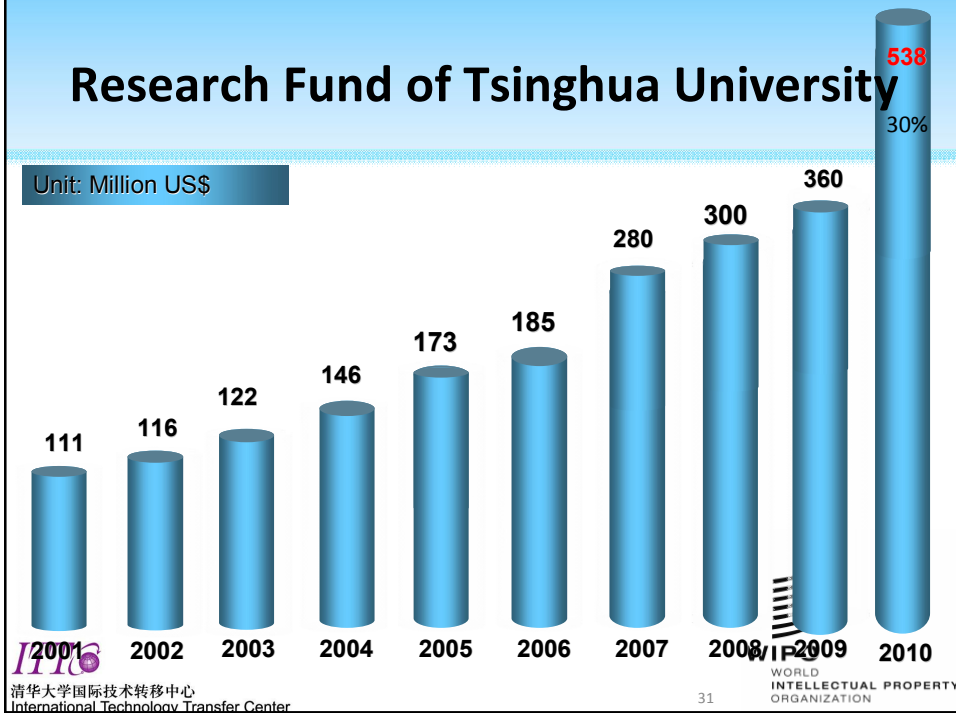


Profile

- **15 Schools**
- **55 Departments**
- **170 Laboratories**
 - ✓ 2 National Laboratory
 - ✓ 15 State Key Laboratories
 - ✓ 4 National Engineering Research Centres
 - ✓ 18 Ministry of Education Key Laboratories
 - ✓ 4 Beijing Key Laboratories
- **2923 Faculties**
- **14608 UG and 21697 PG Student**

Research Fund of Tsinghua University

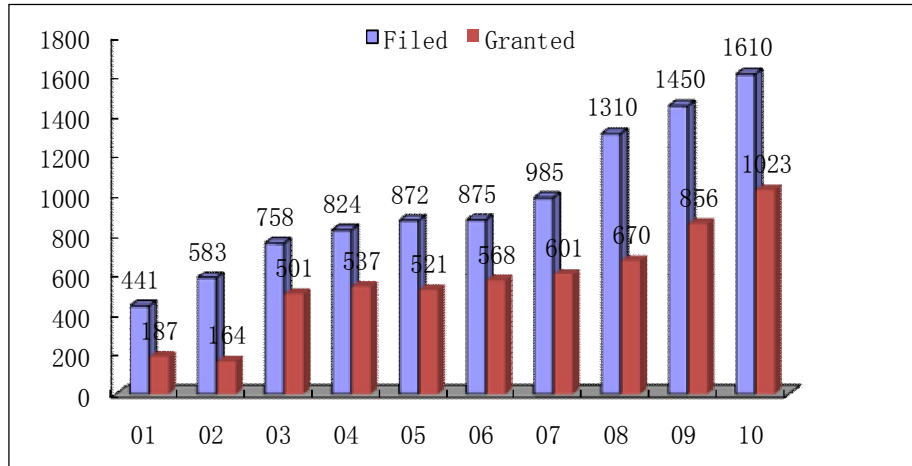
Unit: Million US\$



Overseas R&D Collaborations

Year	Number of Contracts	Fund (Million US\$)
2003	181	18
2004	277	19
2005	323	29
2006	472	31
2007	580	47
2008	530	50
2009	485	37
2010	537	48

Number of filed & Granted Patents in China



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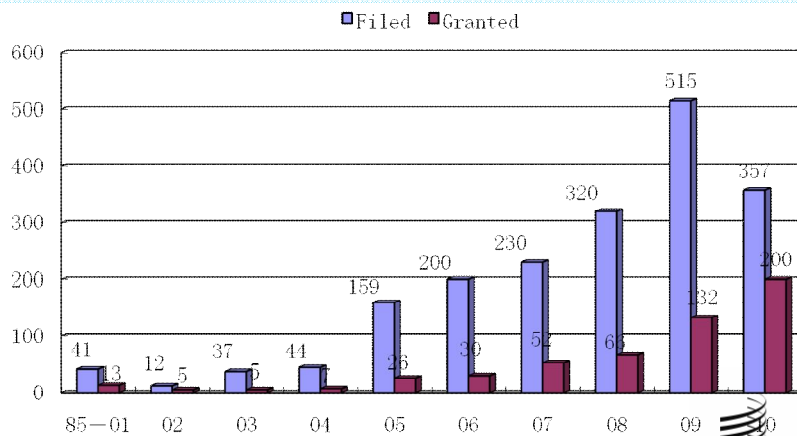
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Number of filed and Granted Patents in Overseas



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100 Top Talents Program

- **The program is designed to introduce the best middle-aged and young researchers from both home and abroad, who will be the leaders in the relevant academic fields**
 - To undertake and direct national-level research projects; to participate in international academic cooperation
 - To design and teach high-level core subjects
 - To organize and build a strong faculty
 - To keep with the cutting edge of academic research and raise the level of scholarship in relevant fields of research

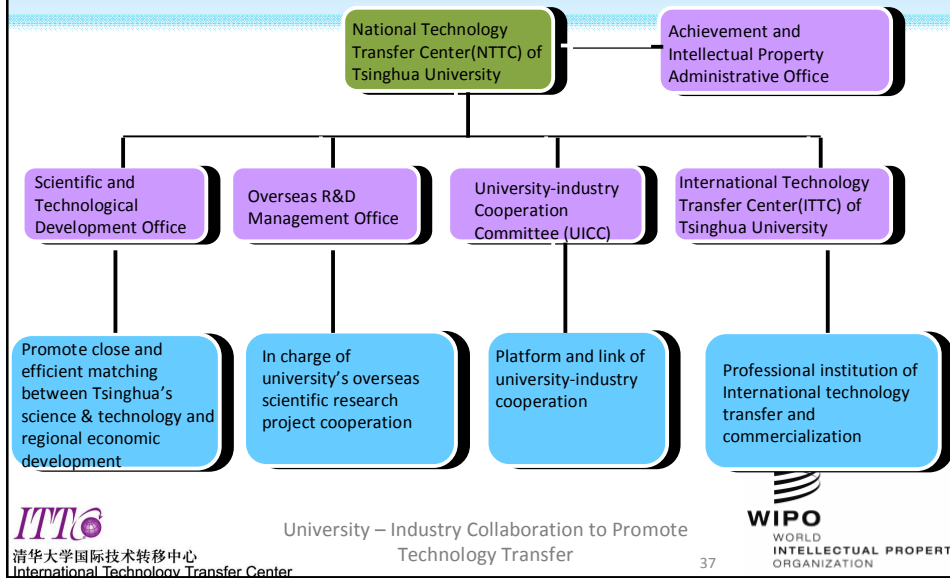


100 Top Talents Program

- **Offers from Tsinghua**
 - Based on the characteristics of the academic disciplines and actual needs, the applicant, when employed, will be provided with up to 2 million yuan (RMB) of research funding as his starting fund.
 - Allowance for the job. In addition to the normal salaries, subsidies and bonuses, the applicant, when employed, will be offered the special allowance for “100 top talents” within the full term (3 years), which is equivalent to that of a full Tsinghua professor.
 - Housing: the applicant, when employed, is offered a three-bedroom apartment on the campus at a favorable rental price.



Technology Transfer System of Tsinghua University

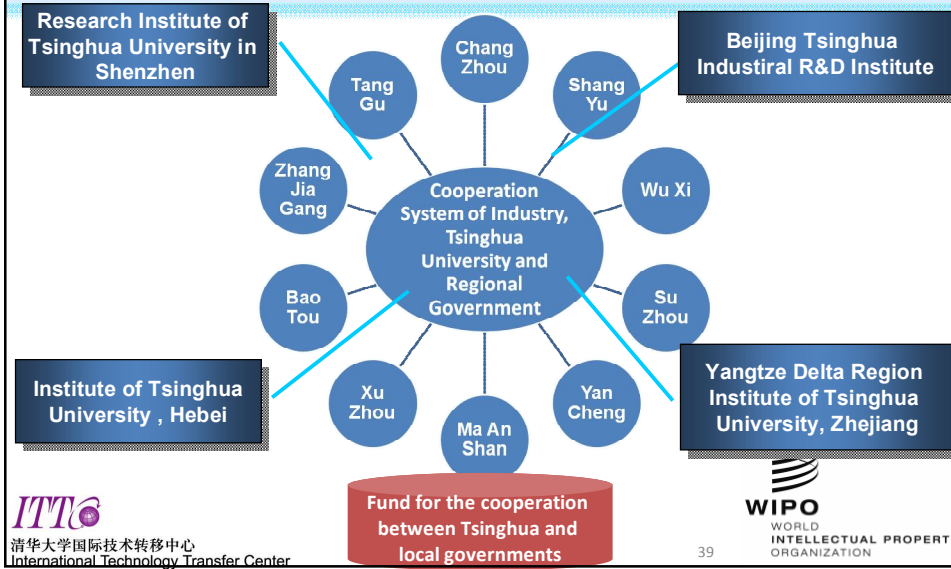


Technology Transfer Network

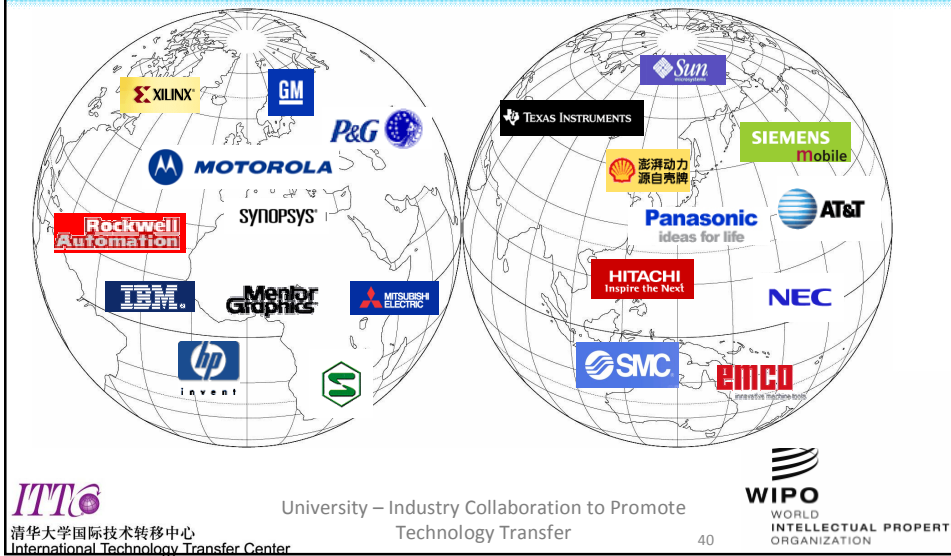
- Close collaboration with governments of 24 provinces and of more than 80 cities



Technology Transfer Network



University-Industry Collaboration Committee



International Technology Transfer Center

- **Established in 2001**
- **Missions**
 - Promote international technology transfer by making full use of resources from Tsinghua University
 - Promote technology commercialization by focusing on Tsinghua University's innovation pool
 - Promote the research on the theory of technology transfer



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Tsinghua Science Park



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Tsinghua Holdings Co., Ltd.



21 Holding Companies
(**3** Listed Companies included)
21 Share-holding Companies



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Conclusions



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Conclusions

- **It's easy to make laws and regulations, but it will take long time to cultivate an innovation-oriented culture.**
- **Although there should have a balance development for every domestic innovation system, WIPO/WTO may consider how to balance the development among developed and developing countries and help to foster international technology transfer.**



Conclusions

- **For developing countries, education and attracting more talents is very important for innovation. Policymakers may pay more attention to PEOPLE/TALENTS.**
 - **National Outline for Medium- and Long-Term Talent Development (2010-2020) (2010)**
 - **Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010)**
 - **China has launched “1000-elite Program” in order to attracting overseas high-level talents to work in China (<http://www.1000plan.org/>)**



Thank You!

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