

A blue-toned world map serves as the background for the top half of the slide. The map is centered on the Atlantic Ocean, with the Americas on the left and Europe and Africa on the right.

中国的科技创新体系及中泰科技合作 **China's Science, Technology and Innovation (STI)** **System and Policy** **and** **China-Thailand Cooperation on Science and Technology**

The bottom half of the slide features a background image of two hands typing on a laptop keyboard. A semi-transparent network diagram with white nodes and lines is overlaid on the image.

中华人民共和国驻泰国使馆
Embassy of the People's Republic of China in the Kingdom of Thailand
October 2014

Content



- ✓ **S&T achievements in China**
- ✓ **Updated Statistics (2013)**
- ✓ **STI System and National R&D Programs**
- ✓ **Commercialization of R&D achievements**
- ✓ **International S&T Cooperation**
- ✓ **China-Thailand S&T Cooperation**
- ✓ **Other Information**

Content



- ✓ *S&T Achievements in China*
- ✓ **Updated Statistics (2013)**
- ✓ **STI System and National R&D Programs**
- ✓ **Commercialization of R&D achievements**
- ✓ **International S&T Cooperation**
- ✓ **China-Thailand S&T Cooperation**
- ✓ **Other Information**

S&T Achievements in China

❖ China's top 10 science and technology progress in 2013



•Chang'e-3 landed on the moon's Sinus Iridum,or the Bay of Rainbows,on 14 December, making China the third country in the world to carry out such a rover mission after the United States and former Soviet Union. And China's first moon rover,Yutu,or Jade Rabbit, separated from the lander several hours after the Chang'e-3 probe soft-landed on the lunar surface.

S&T Achievements in China

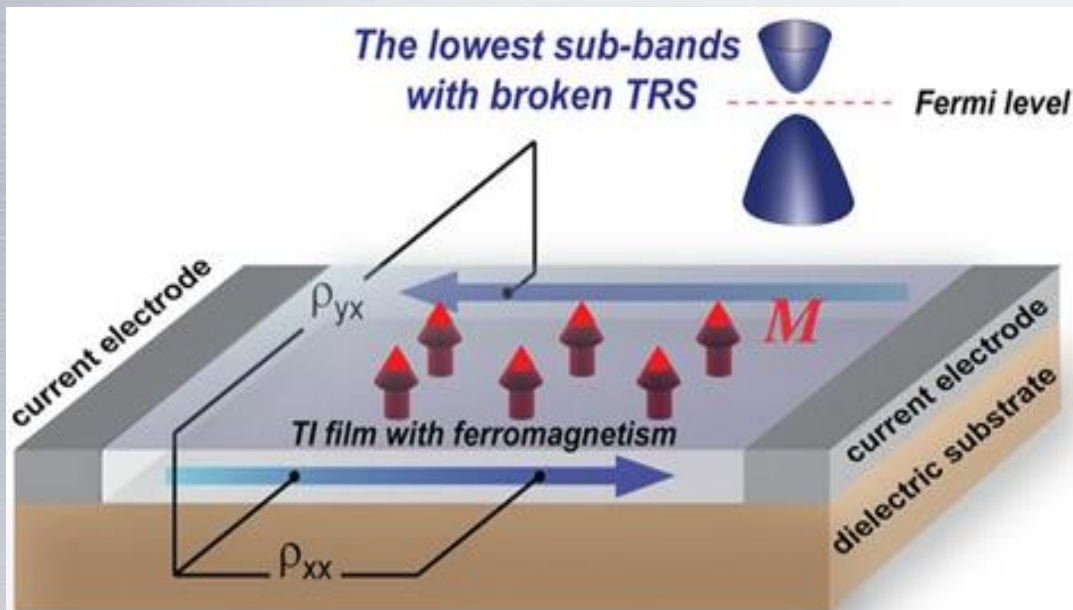
❖ China's top 10 science and technology progress in 2013

•The Shenzhou-10 mission has made China's manned spacecraft flights successful in a consecutive way, and put a satisfactory end to the first phase of the second step of China's manned space program.



S&T Achievements in China

❖ China's top 10 science and technology progress in 2013

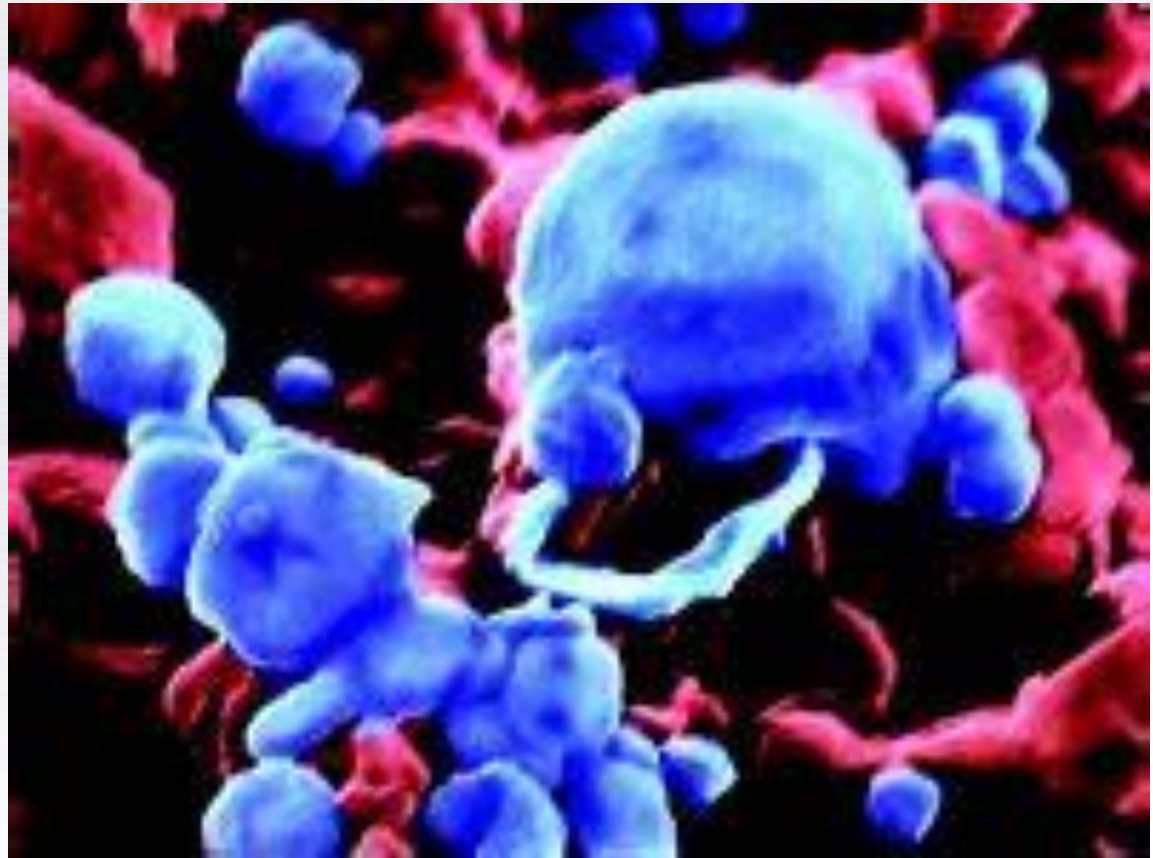


•Chinese scientists have made the very first experimental observation of a phenomenon known as the quantum anomalous Hall (QAH) effect, a discovery that will help accelerate the IT revolution and in developing low-power-consumption electronics

S&T Achievements in China

❖ China's top 10 science and technology progress in 2013

• H7N9 avian influenza, which was first reported in humans in China this year, has a lower fatality risk than H5N1-type bird flu that emerged in 2003.



S&T Achievements in China

❖ China's top 10 science and technology progress in 2013



- The supercomputer Tianhe-2, capable of operating as fast as 33.86 petaflops per second, was ranked on Monday as the world's fastest computing system, according to TOP500, a project ranking the 500 most powerful computer systems in the world.

S&T Achievements in China

❖ China's top 10 science and technology progress in 2013

•Ultra-light Aerogel Produced at China. A research team have developed ultra-light aerogel – it breaks the record of the world's lightest material with surprising flexibility and oil-absorption. This progress is published in the “Research Highlights” column in Nature.



S&T Achievements in China

❖ China's top 10 science and technology progress in 2013

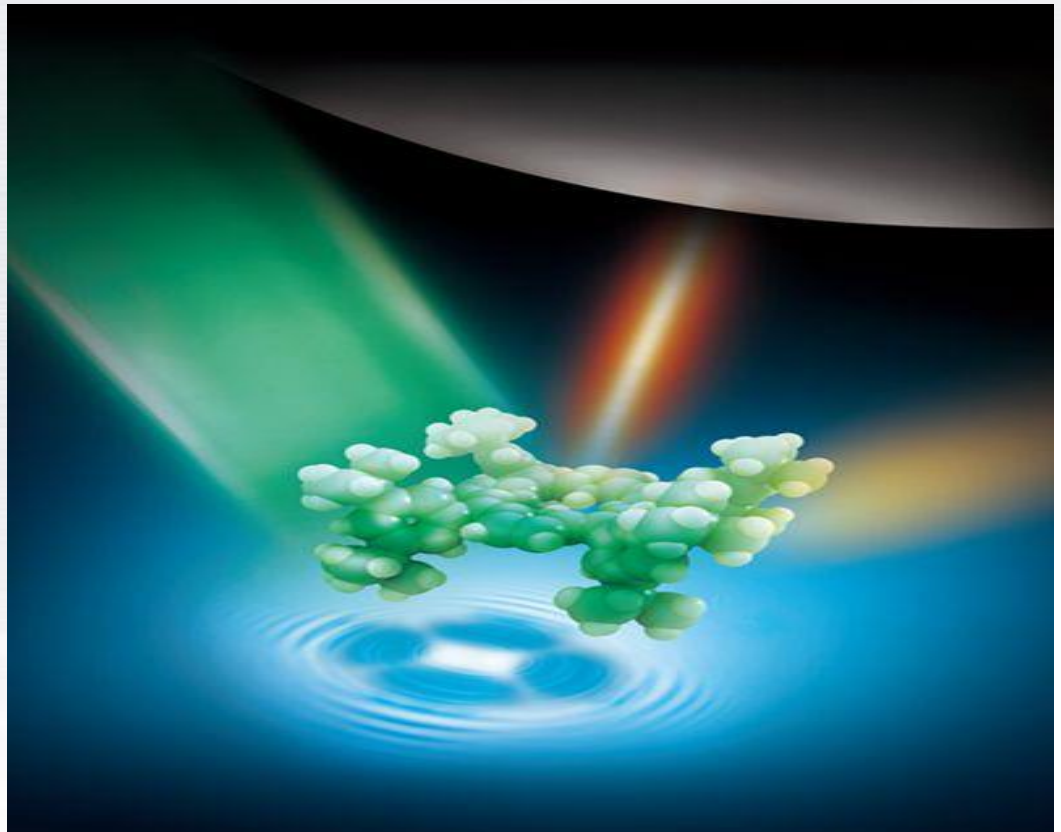


• Chinese Academy of Sciences (CAS) has launched a deep ultraviolet (DUV) solid-state laser device, making the country first-ever in the world to possess such technology.

S&T Achievements in China

❖ China's top 10 science and technology progress in 2013

• Chinese scholars reported a resolution of sub-nanometer (about 0.5nm) Raman spectral imaging technique that can distinguish between the internal structure and surface configuration of individual molecules. This technology not only makes chemical imaging on a single molecule level possible, but opened up a new way to study single molecules nonlinear optical processes and photochemical processes in the world.



S&T Achievements in China

❖ China's top 10 science and technology progress in 2013



•The world's largest nuclear power generator unit capacity -- the Taishan nuclear power plant No. 1 1750 megawatt nuclear power generators by China Dongfang Electric Co., Ltd.manufacturing, and from the Sichuan Deyang smooth shipment.

S&T Achievements in China

❖ China's top 10 science and technology progress in 2013

• Chinese scientists have put forward a new theory of mimicry computing and successfully developed the world's first dynamic variable structure mimicry computer based on bionics, cognitive science and information technology.



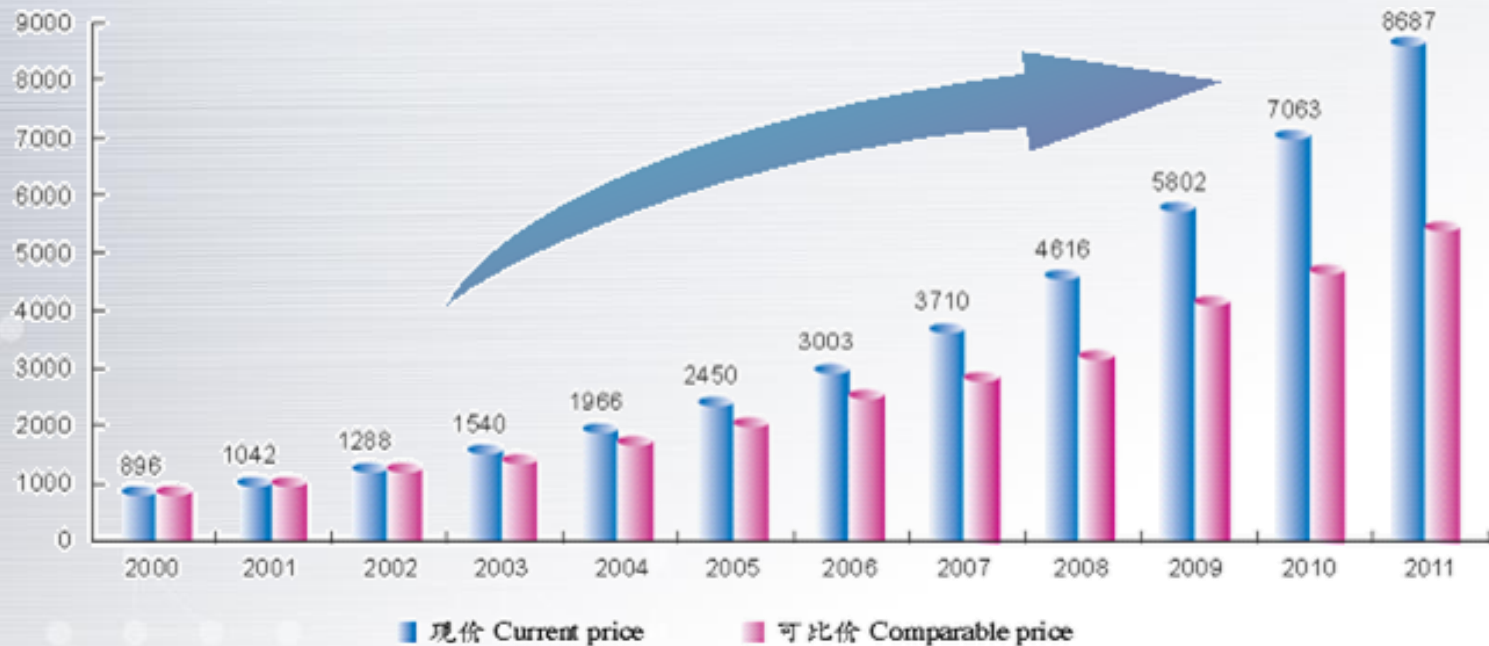
Content



- ✓ **S&T Achievements in China**
- ✓ **Updated Statistics (2013)**
- ✓ **STI System and National R&D Programs**
- ✓ **Commercialization of R&D achievements**
- ✓ **International S&T Cooperation**
- ✓ **Thailand-China S&T Cooperation**
- ✓ **Other Information**

Updated Statistics

- ❖ In 2013, Gross domestic R&D expenditure reached 11906 billion Yuan*, annual growth rate over 20%.

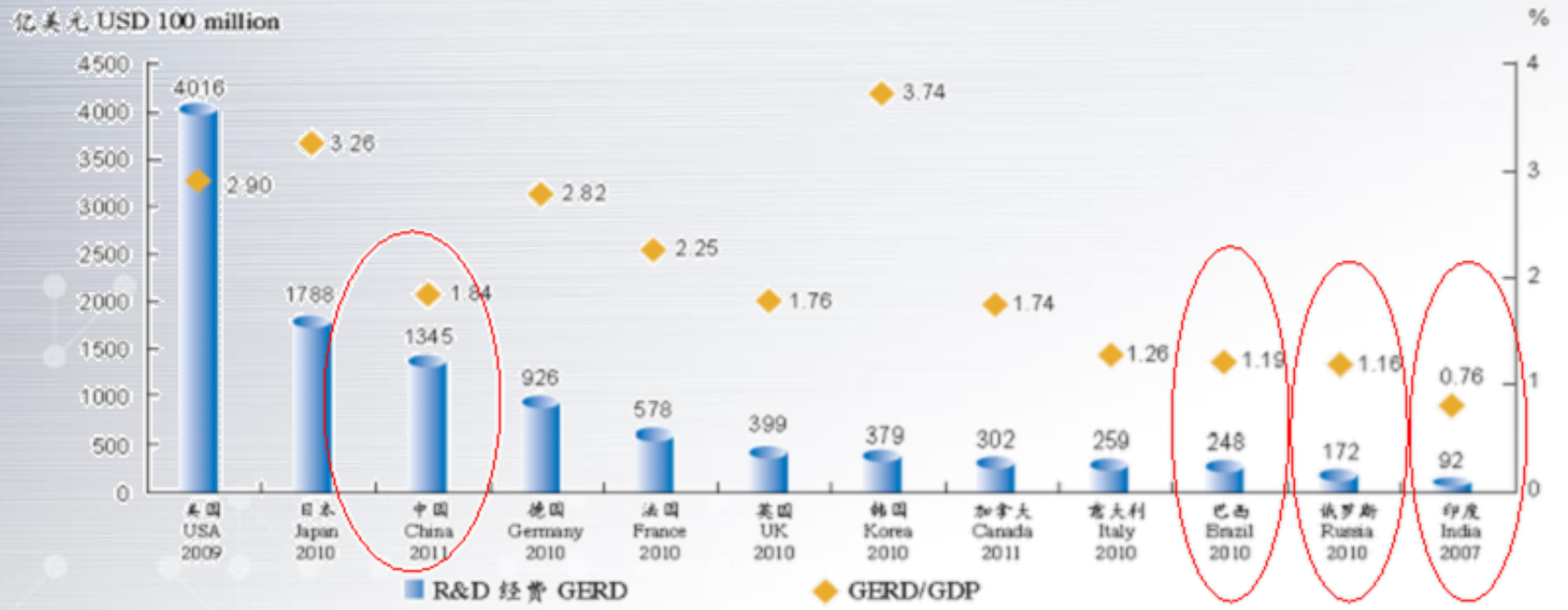


Gross Domestic Expenditure on R&D 2000-2011 (Vertical axis in 100 million yuan)

* 1USD=6.2855 CNY, exchange rate on 2012.12.31

Updated Statistics

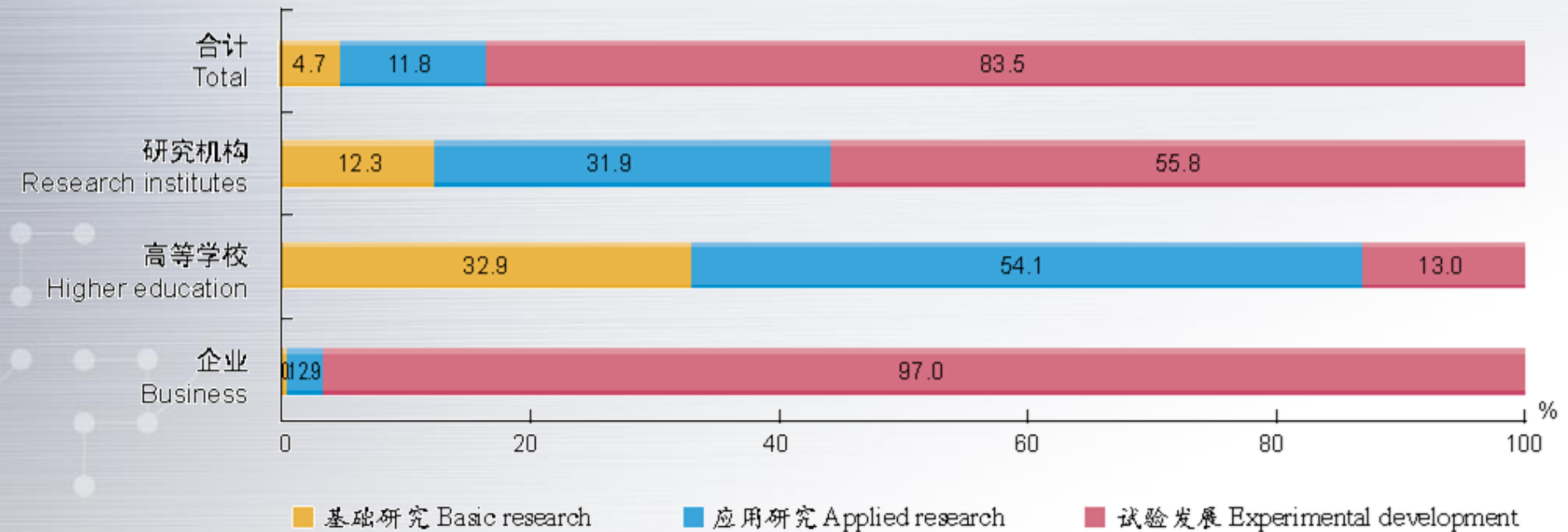
- ❖ Ratio of the nations' Gross domestic expenditure on R&D (GERD) to GDP reached from 1.84% in 2011 to 2.09% in 2013.



GERD in selected countries

Updated Statistics

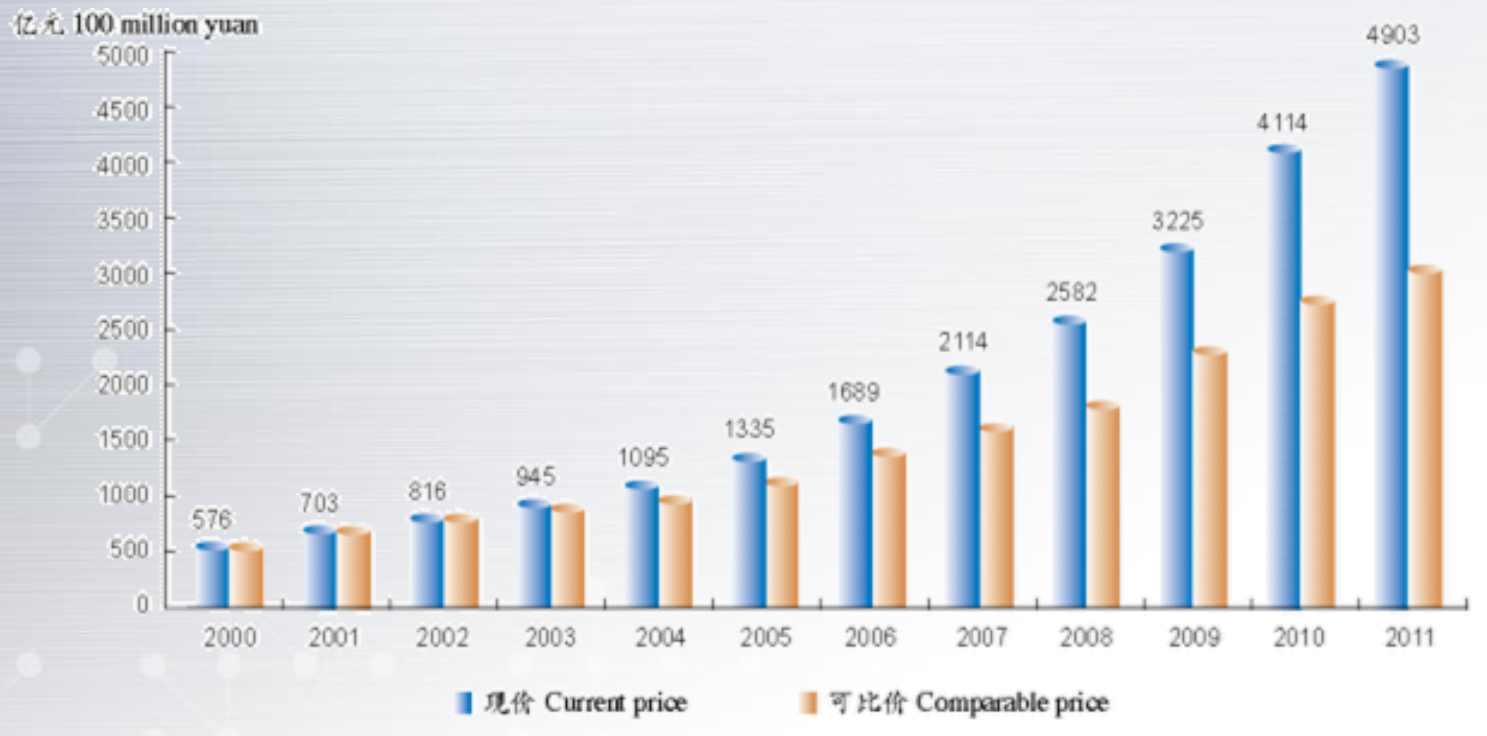
❖ GERD by type of activity in 2011(%).



GERD by type of activity

Updated Statistics

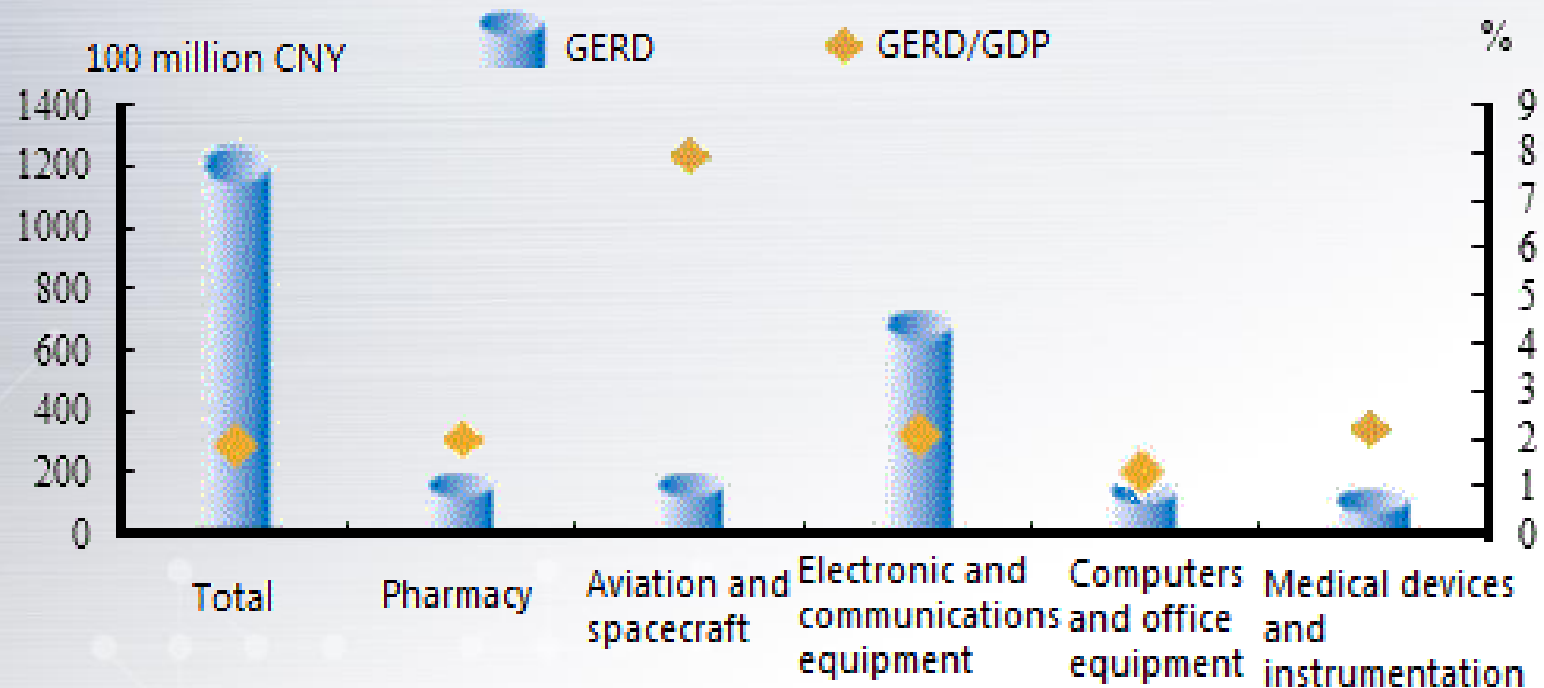
- ❖ In 2013, Central Government science and technology appropriation reached 246.059 Billion Yuan.



Total Government S&T appropriation from 2000-2011

Updated Statistics

- ❖ High-tech industry R&D expenditure continued to grow. Large (medium)-type high-tech industry enterprises R&D expenditure reached 123.78 billion Yuan (2011) .



High-tech industry R&D expenditure and investment intensity distribution by sectors

Updated Statistics

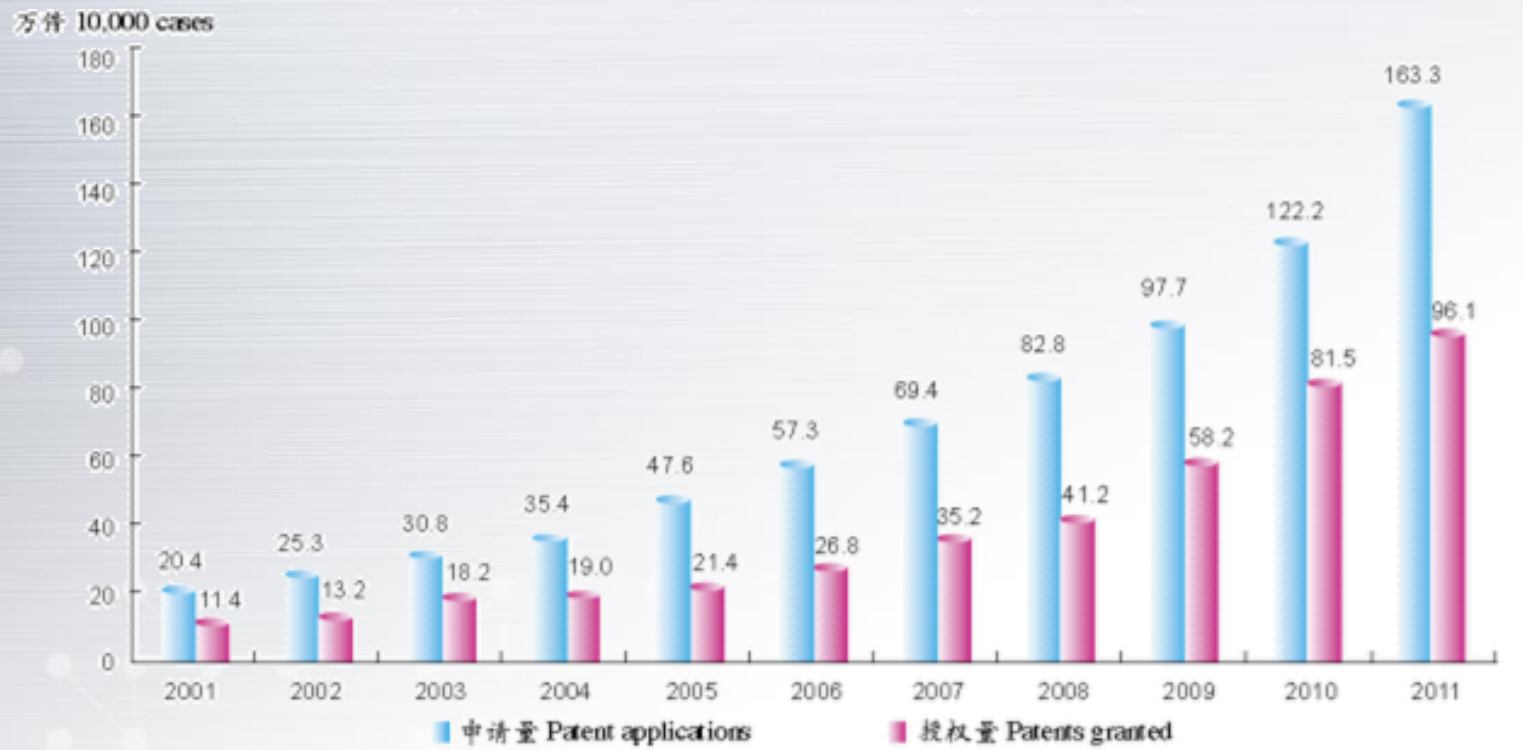
- ❖ In 2013, National R&D personnel reached 3.60 million person-years from 3.20 million person-years in 2012.

	2006	2007	2008	2009	2010	2011
R&D人员 (万人年) R&D personnel (10,000 person-years)	150.3	173.6	196.5	229.1	255.4	288.3
每万就业人员中R&D人员 (人年) R&D personnel per 10,000 total employment (person-year)	20.04	23.05	26.01	30.22	33.56	35.28

National R&D Personnel (2006-2011)

Updated Statistics

- ❖ In 2013, patent licenses by SIPO reached 0.59 million cases, increased of 24% compared to 2012.



Patent applications field and patents granted by SIPO

Updated Statistics

- ❖ From 2003 to Sept. 2013, Chinese scholars have published International scientific papers 114.3 Million, ranked 2nd in the world, cited 7.0988 Million times, ranked 5th in the world.

万篇 10,000 papers

	2006	2007	2008	2009	2010	2011
科学引文索引 SCI	7.1	8.9	9.6	10.9	12.2	14.4
工程索引 EI	6.5	7.6	8.9	9.3	11.2	12.4
科学会议录引文索引 CPCI-S	3.6	4.3	6.5	5.2	3.8	5.2

Chinese S&T papers indexed by SCI, EI and CPCI-S (2006-2011)

Updated Statistics

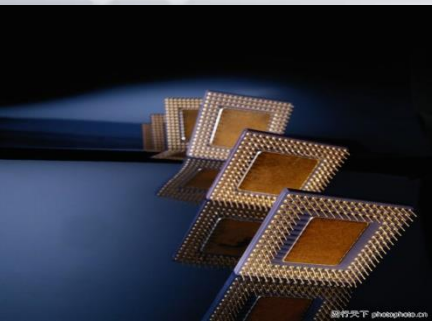
- ❖ In 2012, The Gross industrial output of high-tech industry is 10228.4 billion Yuan.

亿元 100 million yuan

	2007	2008	2009	2010	2011
总产值 Gross industrial output	50461	57087	60430	74709	88434
主营业务收入 Revenue from principal business	49714	55729	59567	74483	87527
利润 Profits	2396	2725	3279	4880	5245
利税 Taxes and profits	3353	4024	4660	6753	7814
出口交货值 Export	28423	31504	29500	37002	40600

Main economic indicators of high-tech industry in total

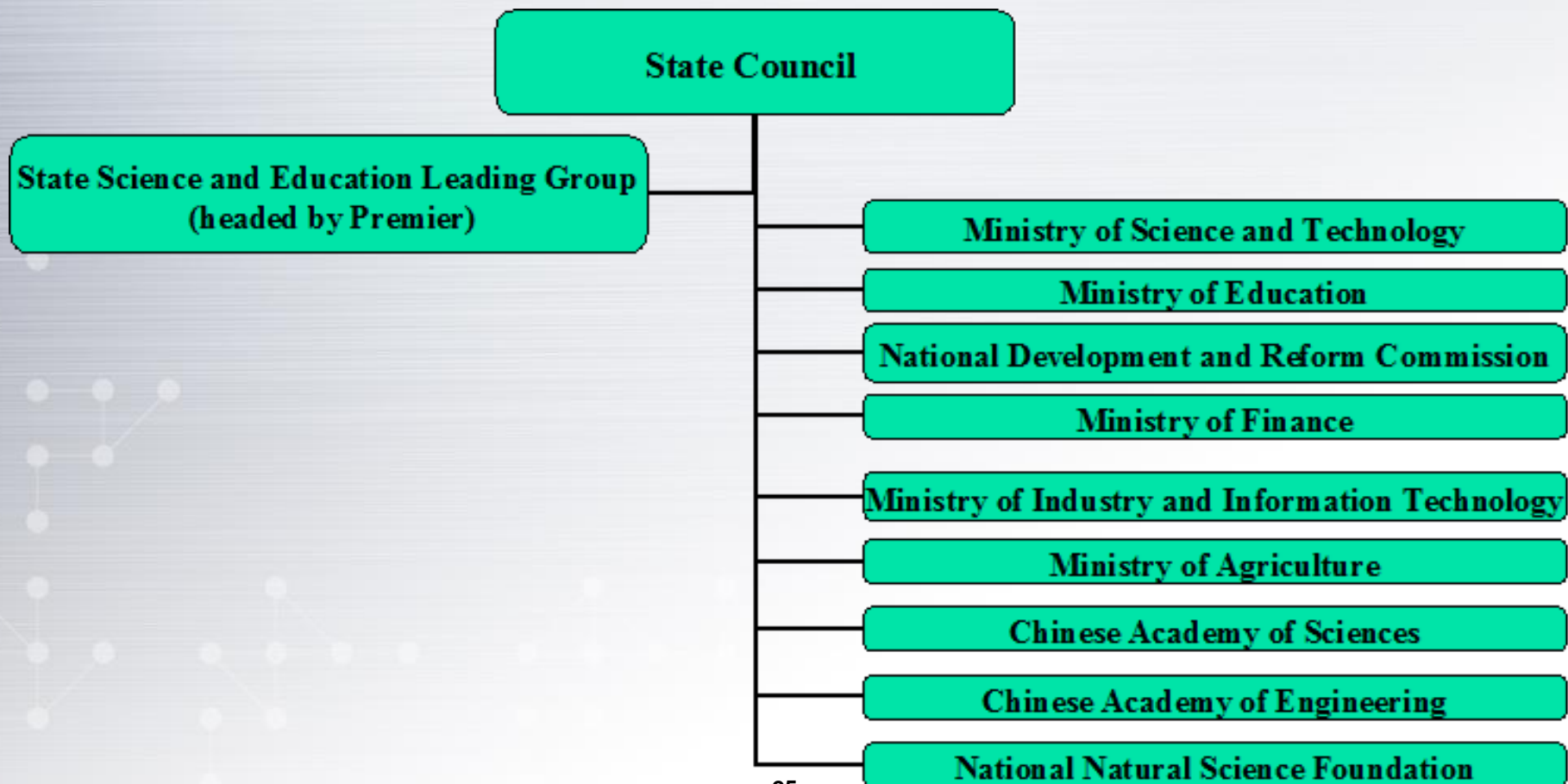
Content



- ✓ **S&T Achievements in China**
- ✓ **Newly Updated Statistics (2013)**
- ✓ **STI System and National R&D Programs**
- ✓ **Commercialization of R&D achievements**
- ✓ **International S&T Cooperation**
- ✓ **China-Thailand S&T Cooperation**
- ✓ **Other Information**

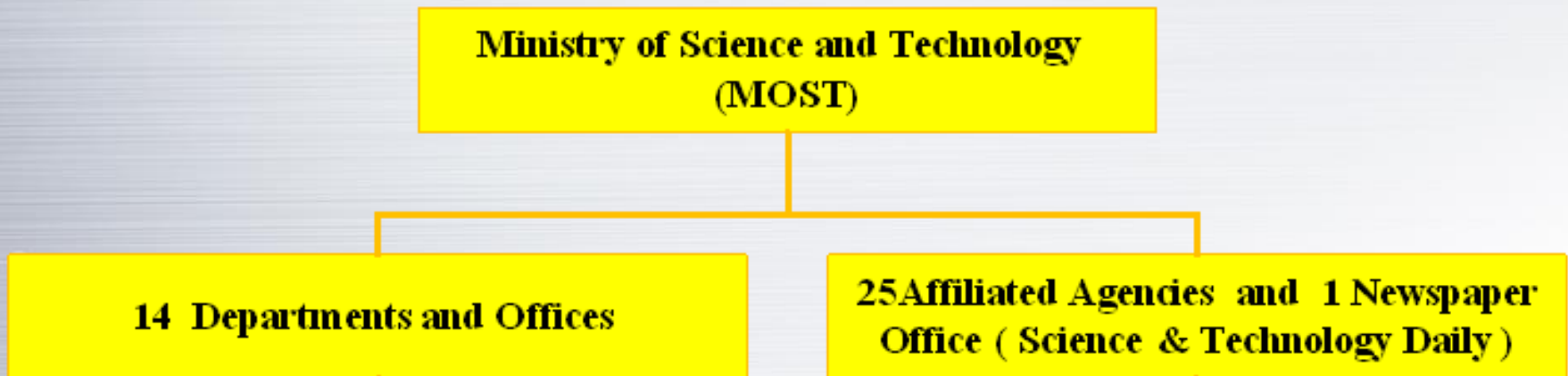
STI System and National R&D Programs

❖ Decision-Making and Stakeholders



STI System and National R&D Programs

❖ Ministry of Science and Technology



Administrative Office, CPC Committee of MOST

Department of Policy, Regulations and Reform (Office for Building Innovation System)

Department of Development Planning, Major Special Project Office

Department of Facilities and Financial Support, Department of Basic Research

Department of High and New Technology Development and Industrialization

Department of Rural Science and Technology, Department of Social Development

Department of International Cooperation (Office of Hong Kong, Macao & Taiwan Affairs)

Department of Personnel, Bureau of Retired Staff, Bureau of Supervision

STI System and National R&D Programs

❖ Missions of the Ministry of Science and Technology

- Takes the lead in drawing up S&T development plans and policies, drafting related laws, regulations, department rules, National S&T Programs.
- Compiles and implements plans on national laboratories, innovative bases, national S&T programs, and research conditions so as to promote infrastructure construction and resource sharing.
- Formulates and supervises S&T plans, and guides the national high-tech industrial development zones.
- Draws up policies and measures on enhancing rural and social progress with S&T to improve the livelihood of the people.
- Promote application and demonstration of scientific discovery and technological invention, and improve innovation capacity of enterprises.
- Budgeting, final accounting, and supervising of S&T funds.
- Appraise the National S&T Award, drawing plans on S&T talents team-building and making proposals.
- Drafts plans and policies on science popularization, technology market and S&T intermediaries.
- Draws up policies on bilateral and multilateral S&T cooperation and exchange, guiding relevant departments and local governments in international interaction, appointing and supervising S&T diplomats, and facilitating aid to and from China.

STI System and National R&D Programs

❖ R&D forces in China

▪ Enterprises

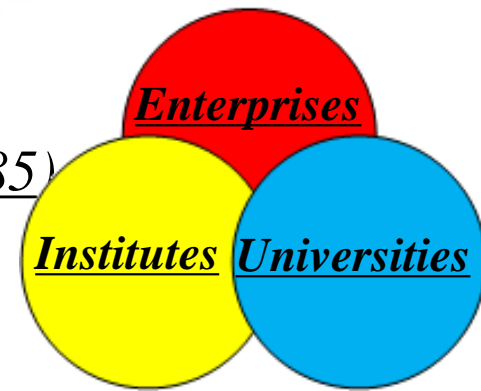
- State owned Enterprises
- high-tech private enterprises (e.g. Lenovo, Huawei, ZTE, etc.)
- technology-based SMEs

▪ Independent Research Institutes

- Central govt.
- Chinese Academy of Sciences (National team)
- Research Institutes affiliated to Ministries, Bureaus, etc. (mainly focused on research for public interests/goods)
- Local Govt.

▪ Research Universities (Project 211 and Project 985)

- Ministry of Education
- Local Govt.



STI System and National R&D Programs

❖ Outline of National Medium and Long-term S&T Development Program (2006-2020)

▪ Priorities (11) and topics (68)

1. Energy



2. Water and mineral resources

3. Environment



4. Agriculture



5. Manufacturing



STI System and National R&D Programs

❖ Outline of National Medium and Long-term S&T Development Program (2006-2020)

▪ Priorities (11) and topics (68)

6. Transportation



7. Information industry and modern service industry

8. Population and health



9. Urbanization and city development



10. Public security



11. National defense



STI System and National R&D Programs

- ❖ Outline of National Medium and Long-term S&T Development Program (2006-2020)
 - Frontier technologies research(8 areas, 27 topics)
 - Biotechnology
 - Information technology
 - New material technology
 - Advanced manufacturing technology
 - Advanced energy technology
 - Marine technology
 - Laser technology
 - Space and aviation technology
 - Basic Research (18 topics)
 - Frontier research issues
 - Basic research to meet national strategic needs

STI System and National R&D Programs

❖ Outline of National Medium and Long-term S&T Development Program (2006-2020)

▪ Matching Policy Package (“60 Theses”)

- Increase govt. R&D investment
- Tax incentive
- Supports from financial sector
- Public procurement
- Imports, digestion, absorption and re-innovation
- Create and protect IPRs
- Human resource development
- Education and promote public understanding of science, Innovation base and platform
- Planning and coordination

STI System and National R&D Programs

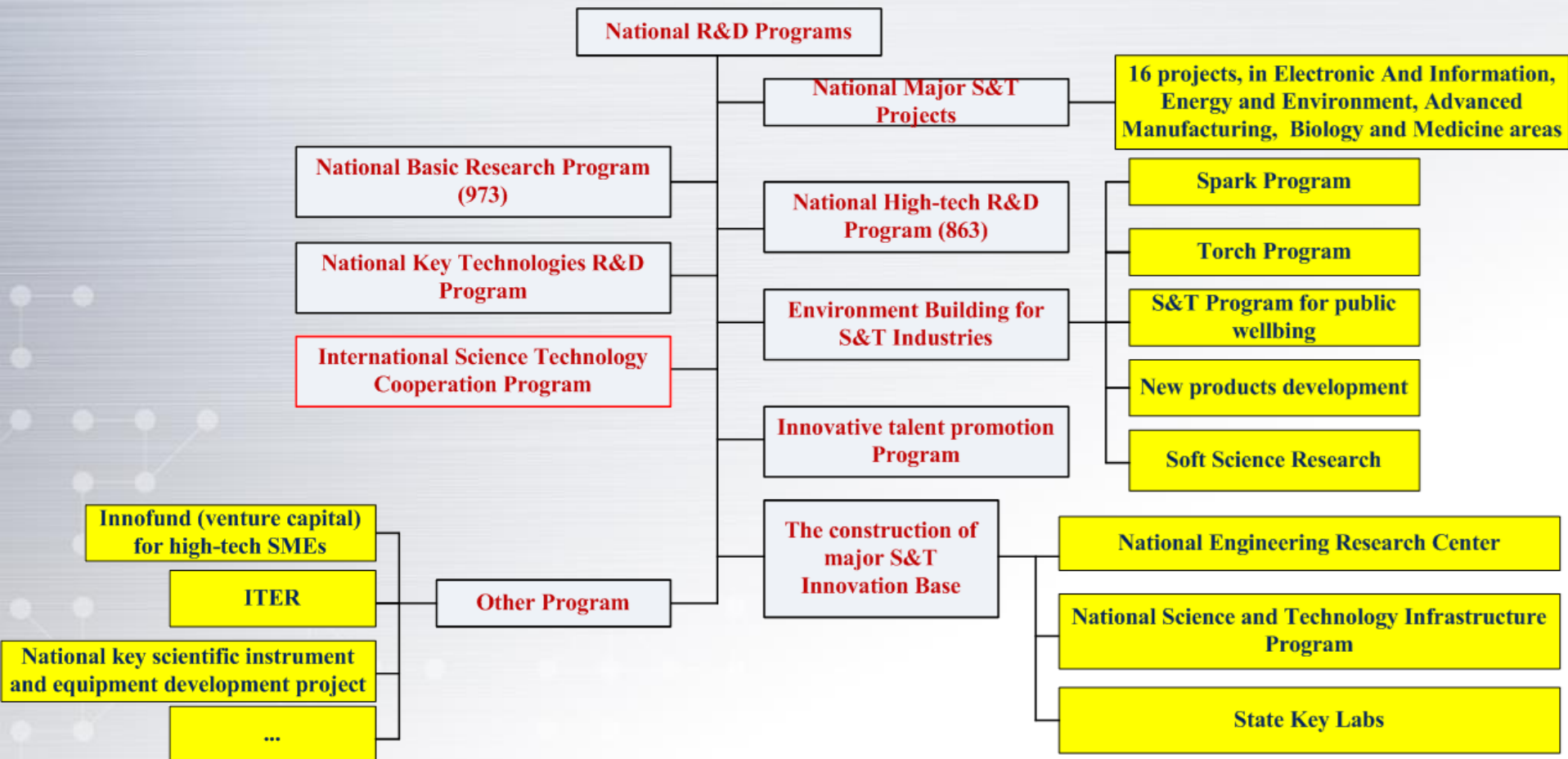
❖ National 12th Five-Year Plan (2011-15) on Sci & Tech Development

- Targets of the 12th five-year plan on scientific and technological development

Targets	2010	2015
R&D expenditure as percentage of GDP	1.75%	2.20%
R&D personnel per 10,000 workers	33/man-year	43/man-year
Ranking of citations in international science papers	8th	5th
Invention patent ownership per 10,000 persons	1.7 pieces	3.3 pieces
R&D personnel's invention patent applications	10 pieces/hundred man-years	12 pieces/hundred man-years
Total contract deals in domestic technology market	RMB 390.6 billion yuan	RMB 800 billion yuan
High-tech value added as percentage of manufacturing sector value added	13%	18%
Percentage of civic scientific literacy in the population	3.27%	5%

STI System and National R&D Programs

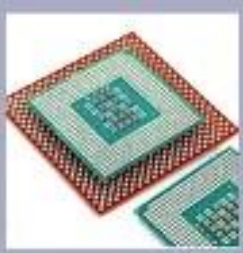
❖ National R&D Programs



STI System and National R&D Programs

❖ National R&D Programs

▪ National Major S&T Project:



•Core electronic devices, high-end general chips and fundamental software



•Mega-scale integrated circuit manufacturing technologies



•Next generation of broadband wireless mobile networks



•Advanced digital control machines and fundamental manufacturing equipments



•Large-scale development of oil & gas fields and coal-bed gas



•Large-scale advanced pressurized water reactor and high temperature gas-cooled nuclear power plants



•Waste water control and treatment



•Breeding of new variety for transgenic biology



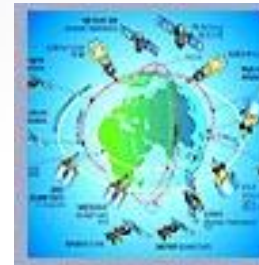
•Key new drug innovation



•Prevention and treatment of key infectious diseases (e.g. HIV/AIDS, hepatitis)



•Mega-airplanes



•High-resolution earth observation system



•Manned space flight and lunar exploration

STI System and National R&D Programs

❖ National R&D Programs

- National Basic Research Program(973)-basic research with national goals:

➤ 9 key areas

- agriculture science
- energy science
- information science
- resources
- environmental science
- health sciences
- materials science
- manufacturing and engineering sciences
- integrated interdisciplinary science
- major scientific frontier research

➤ 6 key major scientific research programs:

- nanotechnology research
- protein research
- quantum control research
- developmental and reproductive research
- global change research
- stem cell research

STI System and National R&D Programs

❖ National R&D Programs

▪ National High-tech R&D Program(863) :

- Information
- Bio and medical
- New materials
- Advanced manufacturing
- Advanced energy
- Resource and environment
- Marine
- Modern agriculture
- Modern transportation
- Earth observation and navigation

STI System and National R&D Programs

❖ National R&D Programs

- National Key Technologies R&D Program(joint application: research entity plus enterprise, and matching funds from enterprises)
 - Energy
 - Resources
 - Environment
 - Agriculture
 - Materials
 - Manufacturing
 - Transportation
 - Information industry and modern service industry
 - Population and health
 - Urbanization and urban development
 - Public safety and other social undertakings

STI System and National R&D Programs

❖ National R&D Programs

▪ International S&T Cooperation Program :

- Initiated in year 2001
- Budget: from 27million to 1.3 billion yuan
- Support joint research projects and joint research centers/labs
- integration of project, talents and int'l cooperation bases
- In line with national R&D priorities and show complementarities in collaboration
- Open competition, (scientific/int'l collaboration) merit-based peer review
- Sharing of R&D results, protect IPRs and respect international practices

STI System and National R&D Programs

❖ National R&D Programs

- Talents Pool and young scientists exchange programs:
 - Recruitment for Global Expert (1000 talents plan)
 - Chang Jiang (Cheung Kong) Scholars Program and Chunhui Program, Ministry of Education
 - Hundred Talents Program, Chinese Academy of Sciences
 - State Administration of Foreign Experts
 - National Science Fund for Distinguished Young Scholar, NSFC
 - Young scientists exchange programs with US, Australia, New Zealand, etc., MOST
 - CAS Foreign Young Scholar Fellowship
 - http://english.bic.cas.cn/AF/Fe/200906/t20090615_6347.html
 - NSFC Research Fellowship for International Young Scientists
 - http://www.sibs.ac.cn/international/tal_05.asp

Content



- ✓ **S&T Achievements in China**
- ✓ **Updated Statistics (2013)**
- ✓ **STI System and National R&D Programs**
- ✓ **Commercialization of R&D achievements**
- ✓ **International S&T Cooperation**
- ✓ **China-Thailand S&T Cooperation**
- ✓ **Useful Information**

Commercialization of R&D achievements

- ❖ *science and technology is the primary productive force* - Deng Xiaoping, 1988
- ❖ promote industry-university-research Institute collaboration and technology transfer, researchers are encouraged to launch start-ups with their R&D achievements
- ❖ National High-tech Industrial Development Zone
- ❖ University Science park
- ❖ Software Park
- ❖ Incubator
- ❖ Technology Transfer Center/Technology market
- ❖ Productivity Center
- ❖ Capital market: Shenzhen ChiNext Board (SMEs), venture capital, PE, etc

Commercialization of R&D achievements

- ❖ National High-tech Industrial Development Zone
 - Zhongguancun Science Park launched in 1988
 - 144 National High-tech Industrial Development Zones with total GDP of 5,800b RMB (USD 951b), more than 10% of national total GDP and 16% of Industrial sector GDP in 2013
 - tax revenue exceeds 1,100b RMB (180b USD) in 2013
 - export volume of 370b USD in 2013, accounts for 16.9% of national total
 - more than half of high-tech companies locates at National High-tech Industrial Development Zones
 - energy intensity (energy consumption per unit of GDP) lower than half of the national average
 - 107 invention patents per 10,000 employees, 10 times than national average
- ❖ High and New-Technology Enterprise (HNTE)
 - enjoy corporate income tax 15% (25% normal) and other preferential policies
 - strong performance in manufacturing sector and export
 - emerging world brands: Lenovo, Huawei, ZTE, Xiaomi, Alibaba, Baidu, Tencent/Wechat

Content



- ✓ **S&T Achievements in China**
- ✓ **Updated Statistics (2013)**
- ✓ **STI System and National R&D Programs**
- ✓ **Commercialization of R&D achievements**
- ✓ **International S&T Cooperation**
- ✓ **China-Thailand S&T Cooperation**
- ✓ **Useful Information**

International S&T Cooperation

- ❖ Open Innovation Strategy
- ❖ Establish intergovernmental STI dialogues and cooperation mechanisms
- ❖ Create cooperation platforms, i.e. joint labs, joint R&D centers, international technology transfer centers, international innovation parks
- ❖ Actively participants in international organization and multilateral mechanisms as well as international mega-science projects and research programs
- ❖ Support international STI projects
- ❖ Support STI multilateral organizations in China

International S&T Cooperation

- ❖ Establish intergovernmental STI dialogues and cooperation mechanisms
 - Established S&T cooperation ties with 154 countries and regions
 - Signed 106 bilateral and multilateral S&T cooperation agreements
 - Established Joint S&T cooperation Commission with foreign counterparts
 - Innovation Dialogue and Cooperation with US, EU, Germany, France, UK, etc



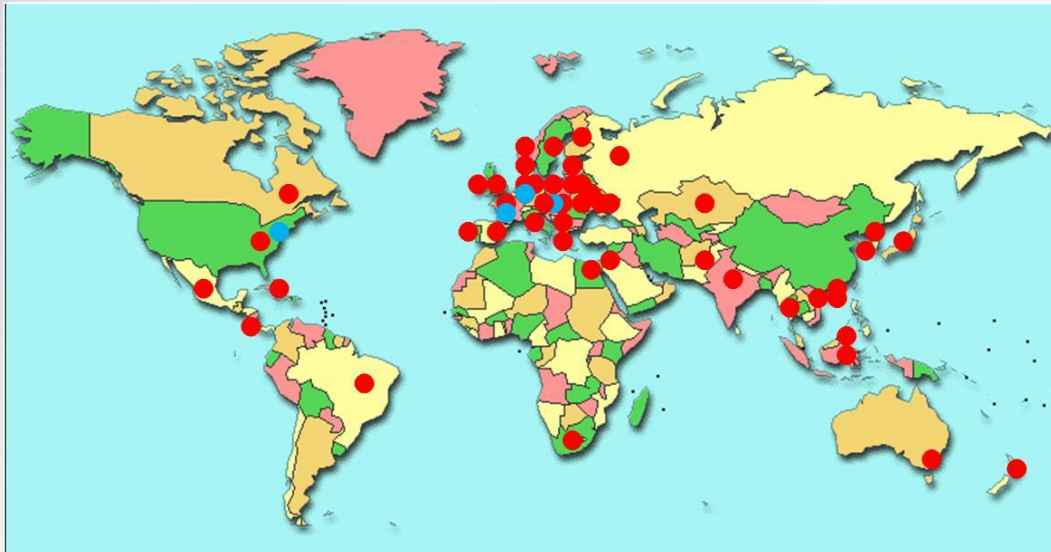
China-U.S. Joint Commission Meeting on
S&T Cooperation, Beijing, 2012



China-EU Innovation Cooperation Dialogue, Beijing, 2012

International S&T Cooperation

- ❖ Establish intergovernmental STI dialogues and cooperation mechanisms
 - 144 accredited diplomats of science and technology in 47 countries(regions and international organizations), 70 embassies and consulates



Countries (regions) and international organizations with S&T diplomats

International S&T Cooperation

❖ Create cooperation platforms

- 21 international innovation parks
- 93 joint R&D centers
- 26 international tech. transfer centers
- 301 international cooperation bases



Website of China-Italy Technology Transfer Centre , 2012



China-Finland Nano Innovation Center , 2012

International S&T Cooperation

- ❖ China actively participants in international organization and multilateral mechanisms as well as international mega-science projects and research programs
 - International organization and multilateral mechanisms
 - ⑩ UNCSTD, UNESCO, UNU, UNDP, UNEP, WIPO, APEC, ASEM, BRICS, OECD, IEA, CEM, CSLF, IPHE, TWAS, COMSATS, ICGEB, etc.
 - International mega-science projects and research programs



**Large Hadron Collider,
by CERN**

LHC, C



**Experimental Advanced
Superconducting Tokamak**

IGBP



**General Meeting of the Third
World Academy of Sciences**

AS,

International S&T Cooperation

- ❖ Support STI multilateral organizations in China
 - UNESCO International Research and Training Center for Science and Technology Strategy in Beijing



Launch ceremony of UNESCO International Research and Training Center

International S&T Cooperation

■ China-Africa S&T Partnership Program

➤ Webpages:

- http://www.cistc.gov.cn/China_Africa/index.asp?column=697&column3=301

➤ Areas of focus :

- Capabilities of Science and technology policy and management
- Ability to promote the technology industry development
- Ability to improve people's livelihood via S&T



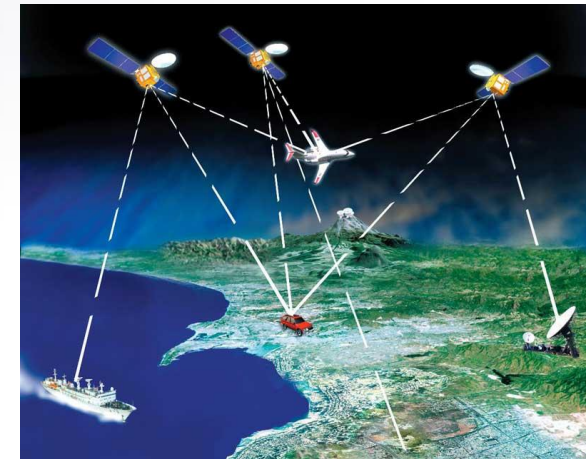
China-Africa Science and Technology Cooperation Forum , Beijing, Dec. 2011

International S&T Cooperation

■ China-ASEAN S&T Partnership Program

➤ *Key areas of cooperation:*

- policy advice and technical services, S&T human resource development, collaborative research, S&T cooperation platform, China - ASEAN technology transfer networks



Launch ceremony of China-ASEAN S&T Partnership Program, Nanning, 2012

Sharing of satellite data with ASEAN

International S&T Cooperation

- China - Latin America Technology Innovation Forum
- Recruitment of Asian and African young scientists for short-term working experience in China
 - *Who can apply:*
 - From Asian and African countries (excluding Japan, Singapore, Israel, Central Asian countries)
 - under 45 years old
 - with 5 years experience in scientific research, or holding a doctorate degree
 - fluent in English or Chinese
 - *Funding :*
 - MOST will provide each selected young scientist with a grant of RMB12,500 yuan per month (6-12 months)
 - *How to apply :*
 - Application via the receiving research institutes
 - *For more Information:*
 - http://www.cistc.gov.cn/introduction/Notice_4.asp?column=375&id=81627

International S&T Cooperation

❖ Cooperation with other developing countries

- Funding scientists exchange programs identified by the Intergovernmental Joint Commissions of China and the developing countries.
- Equipment donation to researchers from developing countries

➤ For more information:

- http://www.cistc.gov.cn/China_Africa/info.asp?column=699&id=72132



Equipment donation

International S&T Cooperation

- Implementation of Scientific and Technical Aid projects
 - Joint laboratory (Joint Research Center)
 - Agricultural S&T parks.
 - Joint S&T research and demonstration
 - Research on S&T policy and science park planning
 - Cooperation network for regional S&T integration

International S&T Cooperation

■ Implementation of Scientific and Technical Aid projects



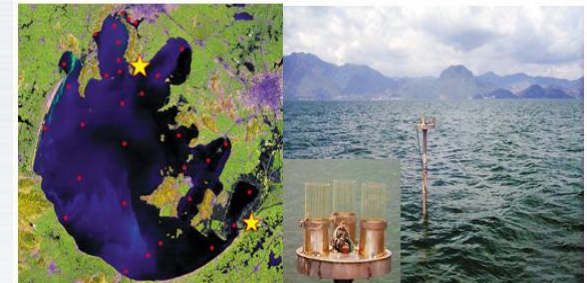
*China-Cambodia food industry lab
(Phnom Penh, 2012)*



*China-ASEAN Technology
Transfer Center (Nanning, 2013)*



*Thailand 1.2MW Rice husk
gasification power plant, by
GIEC, CAS⁵⁶*



*Tanganyika lake ecological environment
monitoring and resource protection , by
NIGLAS,CAS & UNEP,2008*



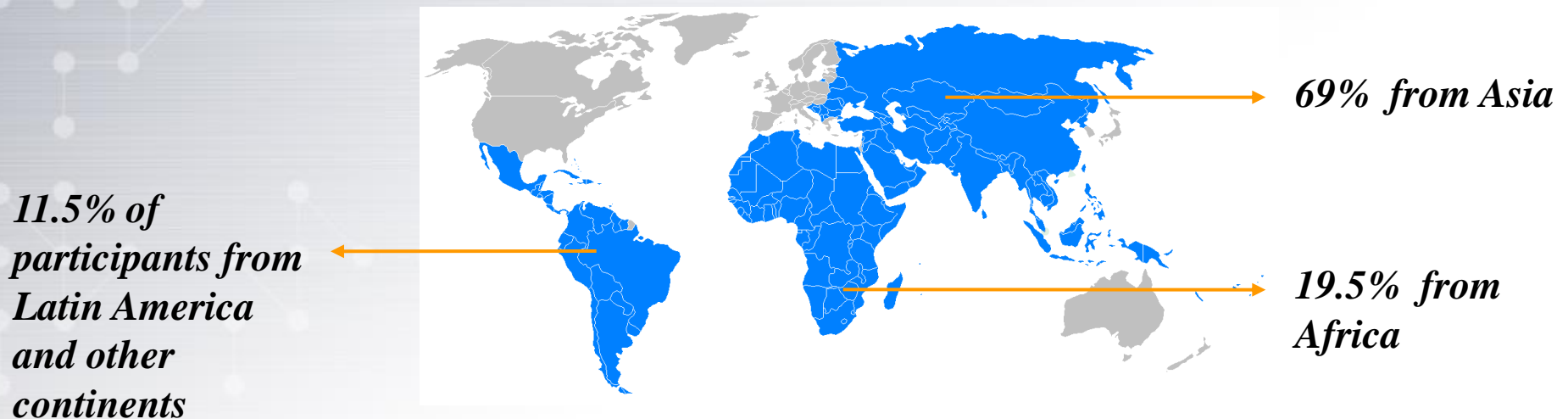
*Launching of China - Mongolia Natural
focus of infection joint research
lab,Ulan Bator,by CAIQ, AQSIQ,*

International S&T Cooperation

■ International Training Program

➤ ITP of MOST started in 1989, during 2001 to 2013, MOST sponsored :

- about 420 international technological workshops
- with nearly 8500 participants for courses on management and technology
- from more than 120 developing countries



International S&T Cooperation

- International Training Program

- 3 main categories of training workshops

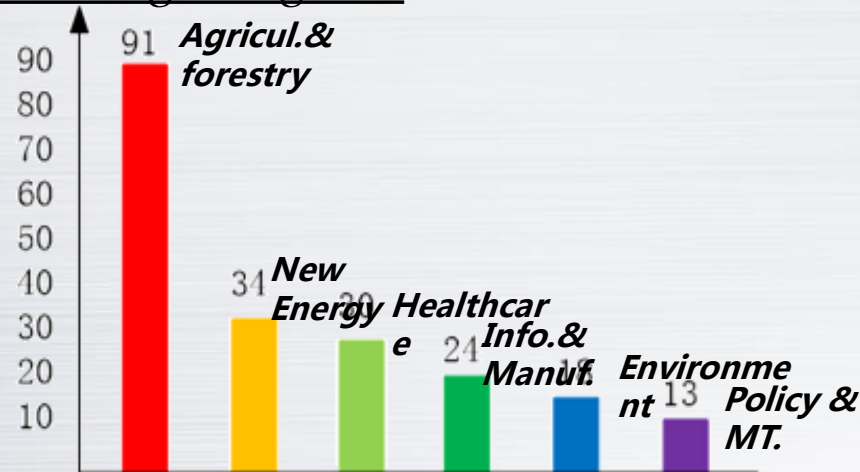
- Mature and applicable technologies
 - High technologies
 - Science and technology policy and management

- Fields:

- Agriculture and forestry, resources, environment, new and renewable energies, information, manufacturing, health care, science and technology policy and management

International S&T Cooperation

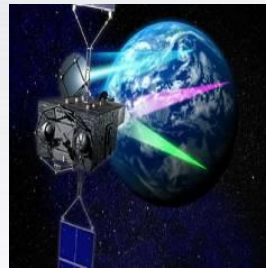
■ International Training Program



Statistics of training workshops in accordance with the technical fields(2008-2013, 210 in total)



Breeding techniques and rainwater harvesting



Satellite applications and medical device manufacturing



S&T park planning and technology transfer



International S&T Cooperation

■ International Training Program

➤ How to Apply:

- Program guidance published on the web site of CISTC early in the year.
- Applicants need to contact the organizers
- <http://www.cistc.gov.cn/Training/English/details.asp?column=877&id=83588>

➤ For more information:

- <http://www.cistc.gov.cn/Training/English/>



International S&T Cooperation

❖ Participants Apply

➤ https://168.160.11.33/student_login.aspx

❖ News and Highlight Events

➤ <http://www.cistc.gov.cn/Training/English/>



Content



- ✓ S&T Achievements in China
- ✓ Updated Statistics (2013)
- ✓ STI System and National R&D Programs
- ✓ International S&T Cooperation
- ✓ *China-Thailand S&T Cooperation*
- ✓ Useful Information

中泰科技合作

China-Thailand S&T Cooperation

- 1978年中泰两国签署政府间科技合作协定
Bilateral ST& Agreement signed in 1978
- 两国建立了政府间科技合作联委会，中国科技部与泰国外交部为该协定的牵头部门。泰国国际发展合作署和中国科技部合作司负责具体实施
Joint Committee Meeting held every two years between Thailand Ministry of Foreign Affairs and Chinese Ministry of Science and Technology, implementing agencies: TICA and DIC/MOST
- 双方现已成功召开了20次会议
20 Joint Committee Meetings held in the past 35 years
- 共商定了859个科技合作项目，合作领域涉及农业、林业、机械、电子、生物、遥感、化工、地矿、天文、气象、地震、计量、水利、新能源、传统医药、卫星通讯、交通运输、信息技术、轻工纺织、科技管理、城市规划、教育培训、野生动物保护等
859 Joint R&D projects and Study Visit Projects cover agriculture, forestry, mechanics, electronic, biology, remote sensing, chemical industry, mineral resource, astronomy, meteorology, seismology, metrology, water resource, new energy, traditional medicine, satellite communications, textile, S&R management, urban planning, wildlife conservation, etc

中泰科技合作

China-Thailand S&T Cooperation

- 2013年10月李克强总理访问泰国期间，两国科技部签署了《中泰科技部关于开展4个合作项目的协议》

Agreement signed between Chinese Ministry of Science and Technology and Thailand Ministry of Science and Technology during H.E. Premier LI Keqiang 's visit to Thailand in Oct. 2013

- 两国科技部成立了联委会并于2014年4月在北京召开了第一次会议

Both ministries set up a Joint Committee and held its 1st Meeting in March 2014 in Beijing

- 针对4个重点项目成立了4个工作组：中泰高铁联合研究中心、遥感卫星数据共享与服务平台、中泰技术转移中心、中泰青年科学家交流

4 WGs focused on priority areas established: High-speed railway Joint Research Center, Remote Sensing Satellite Data Sharing and Service Platform, Thailand-China Technology Transfer Cooperation, Talented Young Scientist Visiting Program

中泰科技合作

China-Thailand S&T Cooperation

- 其他部门间合作机制：两国农业部、卫生部，中国国家海洋局—泰国自然资源与环境部，中国科学院—泰国科技部，中科院/社科院/基金委—泰国国家研究理事会等
- Other mechanisms: agriculture, public health, Thailand Ministry of Natural Resources and Environment-China State Oceanic Administration, MOST Thailand-CAS, NRCT-CAS/CASS/NSFC, etc
- 中国广东、广西、云南积极开展与泰国的科技合作
Guangdong Province, Guangxi Autonomous Region, Yunnan Province put much emphasis on S&T collaboration with Thailand
- 两国企业间、企业与科研机构间的技术合作与转让
Technology collaboration and transfer between enterprises and research institutes in two countries

中泰科技合作

China-Thailand S&T Cooperation

- **泰国**是东南亚第二大经济体，农产品生产和出口大国，制造业发达（汽车产量世界第9，硬盘驱动器产量世界第2，电子电器、石化、纺织等产业具有相当规模），基础设施完备

Thailand: 2nd largest economy in ASEAN, major agri-products producer and exporter, booming manufacturing industries (automobile and automotive parts, hard disk driver, electronics, petro-chemical, textile, etc), advanced infrastructure

- **泰国**增加了对科研的投入，科研人员数量增长

increased R&D investment and human resources

- GERD 0.25% (2000) - 0.37% (2011)

- R&D personnel FTE: 32,011(2001) - 53,122(2011)

- **科研机构**和**科技园区**建设

Capacity building: research institutes and science parks

- Research institutes: NASTDA, GISTDA, NARIT, SLRI, TCELS, etc

- Science parks: TSP, university science parks, SKP, Software Park Thailand

中泰科技合作

China-Thailand S&T Cooperation

- 泰国的竞争力与科技创新能力：木桶效应

Thailand's Competitiveness and STI capacity: buckets effect

- 世界经济论坛《全球竞争力报告2014-2015》：144个经济体中排名第31位，12类指标中技术就绪类指标排名第65位，创新类指标排名第67位

WEF/Global Competitiveness Report 2013-2014: 31st/141, Technological readiness: 65th, Innovation: 67th

- 洛桑国际管理学院《世界竞争力年鉴2014》：60个经济体中排名第29位，在20类指标中技术基础设施类指标排名第41位，科学基础设施类指标排名第46位

IMD/World Competitiveness Yearbook 2014: 29th/60, Technological infrastructure: 41th, Scientific infrastructure: 46th

- 世界知识产权组织等《2014年全球创新指数》：143个经济体中排名第48位，人力资本和研究类指标排名第36位，商业成熟度类指标排名第55位，知识和技术产出类指标排名第47位，创意产出类指标排名第60位

WIPO/Global Innovation Index 2014: 48th/143, Human capital & research: 36th, Business sophistication: 55th, Knowledge & technology outputs: 47th, Creative outputs: 60th

中泰科技合作

China-Thailand S&T Cooperation

- 中泰科技合作的潜力尚未充分发挥，21世纪海上丝绸之路可以成为知识和技术传播之旅

China-Thai S&T cooperation: huge potential still untapped, 21st Century Maritime Silk Road could also be a journey of knowledge and technology diffusion

- 未来合作优先领域

Priority areas for future collaboration

—农业和食品：杂交水稻、桑蚕、水产养殖、热带作物和热带水果、农产品加工

Agriculture and food: hybrid rice, sericulture, aquaculture, tropical plants and fruits, agri-products processing

—清洁能源：清洁煤、核能、风能、太阳能、生物质能和生物燃料

Clean energy: clean coal, nuclear, wind, solar, bio-mass and bio-fuel

—空间技术和天文：遥感、卫星导航

Space technology and astronomy: remote-sensing, satellite navigation

—生物技术和生物医药

Bio-technology and bio-medicine

—信息通讯技术

Information and Communications Technology

—交通：高速铁路、电动汽车

Transportation: high-speed railway, electric vehicle

中泰科技合作

China-Thailand S&T Cooperation

- 中国—东盟科技伙伴计划，2012年启动

China-ASEAN Science and Technology Partnership Program, launched in 2012

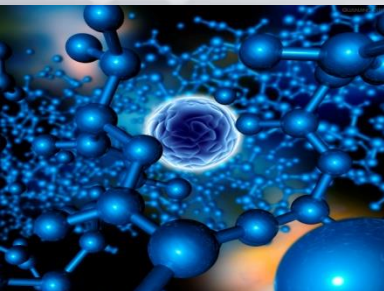
- Joint laboratories
- China-ASEAN Technology Transfer Center (CATTC)
- Talented Young Scientist Visiting Program (TYSP)
- China-ASEAN Platform for Satellite Remote Sensing Data Sharing and Service
- China-ASEAN Science Technology and Innovation Policy Research Center
- China-ASEAN Agro-tech Collaboration Network
- China-ASEAN Action Plan on New and Renewable Energy

- 中泰技术转移中心 Thailand-China Technology Transfer Center (TCTTC), jointly established by CATTC and NSTDA/TMC

- 中国—东盟技术转移与创新合作大会（<http://forum.cattc.org.cn/>），每年在中国—东盟博览会期间举行

Forum on China-ASEAN Technology Transfer and Collaborative Innovation, held annually in parallel with China-ASEAN Expo.

•Content



- ✓ **S&T Achievements in China**
- ✓ **Updated Statistics (2013)**
- ✓ **STI System and National R&D Programs**
- ✓ **International S&T Cooperation**
- ✓ **Thailand-China S&T Cooperation**
- ✓ **Other Information**

•Other Information

- ❖ Ministry of Science and Technology
 - <http://www.most.gov.cn/>
- ❖ International Science and Technology Cooperation in China
 - <http://www.cistc.gov.cn/>
- ❖ China Science and Technology Newsletter
 - <http://www.cistc.gov.cn/englishversion/newsletters.asp?column=123>
- ❖ International Technology Training Program for developing countries (ITP)
 - <http://www.cistc.gov.cn/Training/English/>
- ❖ China Science and Technology Exchange Center
 - <http://www.cstec.org.cn>



Thank You

