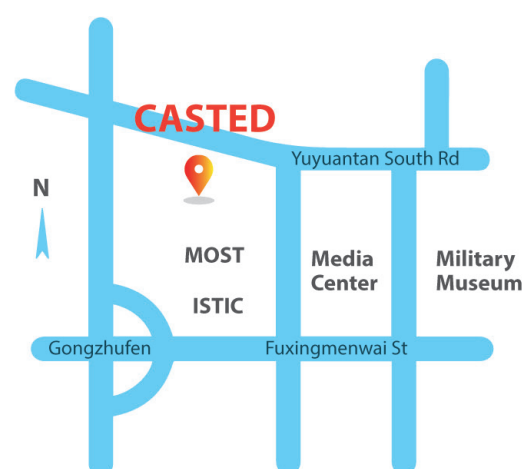




# 2016

## *Chinese Academy of Science and Technology for Development*



### **Chinese Academy of Science and Technology for Development**

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District, Beijing 100038.

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International Research and Training Centre  
for Science and Technology Strategy  
under the Auspices of UNESCO



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*In 1982, National Research Center for Science and Technology for Development (NRCSTD) was established. The name of the center was inscribed by Mr. Deng Xiaoping.*

*In 2007, Chinese Academy of Science and Technology for Development (CASTED) was restructured on the basis of NRCSTD.*

# 中国科技促进发展 研究中心

研+发

## Brief Introduction



Chinese Academy of Science and Technology for Development (CASTED) is affiliated to Ministry of Science and Technology (MOST). The predecessor of CASTED, named National Center of Science and Technology for Development (NRCSTD), was established in 1982. It was restructured in 2007 as CASTED, a think-tank providing consultancy for strategy-making and policy-making in China's Science, Technology and Innovation (STI) development.

CASTED comprises (1) 8 research institutes, namely Institute of Comprehensive Development, Institute of Science and Technology Systems and Management, Institute of Technology Foresight and

Evaluation, Institute of Science and Technology Statistics and Analysis, Institute of Science and Technology Investment, Institute of Science and Technology for Industrial Development, Institute of Science and Rural and Regional Development, Institute of Science and Technology and Society; (2) 3 management departments, namely Department of Party Management, Department of Administrative Management and Department of Research Management; (3) 3 associations, namely China Federation of Scientific and Technological Institutes, China Society for Science & Technology Indicators, and China Association for Promotion of Science & Technology and Finance; (4) 2 offices, namely Forum on Science and Technology in China and China Sci- Technology Business; (5) a postdoctoral admission; (6) a research base named National Institute of Senary Industry Strategy Research, and

(7) 8 international cooperation platforms including International Research and Training Center for Science and Technology Strategy which is a Category II Center under the auspices of UNESCO, Liaison Office of China-OECD STI Cooperation, China-EU Innovation Cooperation Dialogue, China-US non-governmental Dialogue on STI, Sino-German Innovation Policy Platform, China-Japan-Korea S&T Innovation Policy Research, Sino-Korea STI Forum and Cooperation Platform and China-ASEAN S&T Policy Research Center.

CASTED has, in the past three decades, played an important role in supporting STI decision-making and policy-formulating of central government. It has become a crucial think tank that meets the demands of China's STI strategies and policies



# Words from the President of CASTED



“ The year 2016 witnessed significant development of science, technology and innovation in China. President Xi Jinping advocated to build China into a world-class science and technology power. The Central Government and the State Council issued the Outline of National Innovation-Driven Development Strategy and convened the National Conference on Science and Technology Innovation. ”

( President of CASTED )

This is a year when CASTED put emphasis on providing consultancy for decision-making. We focused on realizing the new concept of 'innovative development' by adopting innovation-driven development strategy, promoting structural reform of the supply side, carrying out a series of research projects on major topics including Xi Jinping's thoughts of science and technology innovation and technology requirements under the economic new normal, the enhancing of international productive capacity cooperation, science and technology innovation cooperation for the Belt and Road Initiative, avoiding of 'the middle-income trap' by relying on innovation-driven strategy, knowledge-oriented distribution policy, governance of science and technology venture capital, artificial intelligence development strategy, national laboratory system, supportive regulations of *Law on Promoting the Transformation of Scientific and Technological Achievements*, as well as innovation-driven methodology for provincial and municipal governments. We carried out science and technology innovation theory research with Chinese characteristics on the topic of shared economy and mass entrepreneurship and innovation, Chinese-style innovation, senary industry theory, and triple helix theory. We also conducted research on *National 13<sup>th</sup>-Five-Year Plan on Science and Technology Innovation*, the 5<sup>th</sup> national technology foresight survey, national innovation system and policy, innovation investigation system, science and technology financing, strategic emerging industries, key regional scientific and technological innovation, rural science and technology innovation, science, technology and society.

We are committed to expand global visions. We actively perform the duties and obligations as the International Research and Training Center for Science and Technology Strategy (CISTRAT) under the auspices of UNESCO. We cooperate with EU, Germany, UK, Japan, and Republic of Korea under the framework of innovation dialogue and policy research. We undertook international projects with international organizations such as EU, OECD, WIPO and others. We conduct joint research programs with peer institutes in US, Germany, UK, Republic of Korea etc. We organized international symposium under the Belt and Road Initiative. We explored Sino - Indian science and technology policy research cooperation.

With highlight on multi-disciplinary team building, we continually promote the restructuring of our research, focusing on major scientific and technological decision-making issues, consolidating the theory of scientific and technological innovation and research methodologies, climbing onto the high-end of strategic research. We are always paying attention to the cultivation of young people by building the academic brand of CASTED Youth. We are also exploring how to enhance our internal system reform, academic functions, and academic atmosphere.

In 2017, CASTED will continue to view its major function as providing consultation service for the decision-making of national science and technology innovation strategy and to enhance internal reform and to strengthen its research team and discipline building, so as to further upgrade CASTED into a scientific, theoretical, forward-looking and globalized think tank and to improve our research ability to a new level.

# 2016

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# Key Research Activities and Impacts

## 1.1

### Strategy support for central government on STI decision-making

#### 1.1.1 To complete research tasks assigned by the Central Government and State Council

**CASTED carried out the 2016 annual major programs of Marxist theory research and construction project.** The two research subjects undertaken by CASTED are *“General Secretary Xi Jinping’s New concepts, New ideas and New strategies on Science and Technology Innovation”* and *“the Implementation of Innovation-driven Strategy and Enhancement of Economic Competitiveness”*.

**CASTED also completed the research on knowledge-oriented distribution policy.** After initiating related studies on this issue and learning from the academic achievements of China and abroad, CASTED completed related research report of knowledge-oriented distribution policy.

**CASTED conducted research on STI as support for supply-side structural reform.** With regard to the role STI plays in supporting supply-side structural reform, CASTED put forward a suggestion to enhance the reform through four new actions, of which creating new driving force for the economy is crucial.

**CASTED conducted research on innovation-driven development.** At the time when Outline of *National Innovation-Driven Development Strategy* was being implemented, we conducted systematic analysis and evaluation on the implementation of innovation-driven development strategy, especially on the problems of applying it, so as to provide suggestions on accelerating its implementation.

**CASTED conducted macro trend analysis on economy,** science and technology This include macro trend analysis on economy, science and technology in the first, first two and third season of 2016, prosperity survey on high and new technology enterprises, and the formulation of new driving force index, all of which were intended for supporting macro economic decision-making. Such research efforts also include foresight on the economic trend of 2017, which led to the proposal of relying on STI to create new driving force for the economy to have a new cycle of growth.



### 1.1.1 To complete research tasks assigned by the Central Government and State Council

CASTED carried out researches on other important commissioned tasks. CASTED completed the study of *"Global Science and Technology Frontiers"*, the study of *"Third-party Assessment and Inspection of Promotion of Zhongguancun Pilot Policies"*, and the study of supporting systems of *Law on Promoting the Transformation of Scientific and Technological Achievements*.

### 1.1.2 To actively respond to the arrangements of the Ministry of Science and Technology (MOST)

**CASTED supported MOST on the investigation and research of major issues.** CASTED carried out research on *"Trend and difficulties of implementing innovation-driven development strategy"*.

**CASTED initiated researches on "Mass Entrepreneurship and Innovation".** CASTED worked on makerspace policies, the findings of which were presented in *Policy Suggestions Drawn from Current Development of Makerspaces in China And Other Countries, and Sharing Economy as a Must for Realizing Sharing Development Ideas*. CASTED also conducted an in-depth study on the optimization of China's venture investment system.

**CASTED cooperated in the research and compilation of the 13<sup>th</sup> Five-Year S&T Innovation Plan.** As a support unit for the overall research and compilation of the 13<sup>th</sup> five-year plan, CASTED completed the research on the general strategy of STI development plan. The areas CASTED participated in the research and compilation of the 13<sup>th</sup> five-year plan include national strategic emerging industry, national science, technology and finance, national S&T special projects, and modern service industry. CASTED completed the research and draft of *Special plan to Enhance STI Cooperation Under the Belt and Road Initiative*. CASTED also took the lead in the research of three-year action plan on Sino-Africa science and technology cooperation, proposing a vision that China and Africa take the path of innovation-driven development together.

**CASTED conducted researches on S&T system reform and STI system development.** After reviewing and analyzing innovation system's development situation in China and innovation system's construction characteristics in other major countries, CASTED edited and published *Report on National Innovation System Development 2014 and Theoretical Development, Practices and Implications of National Innovation System*. CASTED also conducted related studies on the construction of national laboratories and formed a series of reports such as *the Origin, Classification and Evolution of National Laboratory System*. CASTED also conducted related studies on civil military integration and composed an initial draft of *Report on China Innovation Policy System Development*.

### **CASTED conducted studies on how innovation cooperation could enhance international production capacity cooperation.**

By analyzing various methods and policy tendencies of international production capacity cooperation, we completed surveys on the innovation cooperation and production capacity cooperation in typical industries and enterprises, the results of which were written in thematic reports such as *"Turning Points of Industrial Transform and What They Have in Common"*, *"Suggestions on Accelerating the Transform of Steel Industry by Enhancing Innovation Cooperation and Production Capacity Cooperation"*, and *"Report on How Innovation Cooperation Could Support International Production Capacity Cooperation"*.

**CASTED conducted studies on key technological needs and solutions in the new normal of economy.** By making analyses on the general requirements of STI in the new normal of economy we had preliminary findings the needs and trends of key technologies in various fields of study, the results of which were included in *"Report on Key Technological Needs and Solutions in the New Normal of Economy"*.



CASTED supported the country to carry out law enforcement inspection and supervision. CASTED participated in the inspection activities organized by the National People's Congress around the enforcement of *Law on Promoting the Transformation of Scientific and Technological Achievements*, carried out the research on transfer exemption policy for state-owned shares, annual reporting system and other supporting systems. CASTED also took part in the third

#### **CASTED conducted studies on national technology foresight.**

CASTED conducted research on national key technologies and completed *National Key Technology Selection Report*. CASTED also organized panels from 14 areas to have an in-depth analysis of technology frontiers and significant issues of various areas in recent years and composed the draft of *Science and Technology Frontiers and Hot Topics Analysis Report*. In August, CASTED presented findings of the 5<sup>th</sup> round of national technology foresight on *Science and Technology Daily*, which was reprinted by new media and mainstream media including *Renmin Daily* and *Guangming Daily*.

#### **CASTED conducted researches on science and technology innovation evaluation and investigation system.**

CASTED studied and participated in the draft of *Methods to Implement Innovation Investigation System*, studied and compiled *China's Innovation Map 2016*, and completed a series of reports on the evaluation of innovation capacity of Chinese enterprises and research institutions. Reports like *National Innovation Index Report 2015* and *National Evaluation Report on Regional S&T Progress 2015* had a wide-spread impact on society.

#### **CASTED conducted researches on key issues of scientific and technological finance and taxation.**

CASTED participated in the research and stipulation of finance and taxation and scientific and technological financial policies related to stock incentives, taxing on shareholders with technology contributed for capital, and R&D expenditure weighted deduction policy. CASTED also detailed related policies in *Guiding Principles from China Banking Regulatory Commission, Ministry of Science and Technology and People's Bank of China on Starting Pilot Venture Loan Service in Finance Institutions in the Banking Sector for STI Enterprises*.

#### **CASTED conducted researches on industry development.**

CASTED carried out an in-depth research on S&T competitiveness by analyzing the patents and research papers to find out the current S&T competitiveness of major industries in China. 46 industrial competitiveness reports and 82 key product competitiveness reports were produced as a result of this analysis. Besides, 5 of the reports CASTED wrote for MOST to present to the Central Government, which include '*Present, Problems and Suggestions on China's Strategic Emerging Industries*' and '*Findings and Insights into Industrial Turning Points*'.

#### **CASTED conducted researches on S&T talents.**

CASTED participated in the work of Central Leading Group for Comprehensively Deepening Reforms, studied and completed the survey report on "Enlarging the Autonomy of Universities and Research Institutions, and Granting Leading Innovative Talents More Power on Disposing Human Resources and Property and Deciding Technical Route". CASTED was also engaged in the survey of '*Extraordinary Scientists in the World from a Global Perspective*' and analyzed the nationality and domain distribution of eminent scientists in several major fields. The research results were reported to the Central Talent Work Coordination Group with the comments of MOST major leaders. CASTED also participated in the research and drafting of '*Guiding Principles on Improving S&T Talent Evaluation*'.

### 1.1.3 To fully support other works of MOST

CASTED completed the data collecting of 2015 national S&T statistics and innovation investigation, and co-published the results of S&T statistical analysis in *China Science & Technology Statistics Data Book*. CASTED also edited *China Science and Technology Indicators 2014 (Yellow Book)*, both in Chinese and English versions.

According to the requirements of National Bureau of Statistics of China about special project of S&T statistic, CASTED organized the 15<sup>th</sup> investigation of national venture investment and published *China Venture Investment Development Report 2016*.

CASTED conducted an analysis of macro-economic and S&T trends and forecasted the trends in 2017. The results were reported to The State Council by MOST.

CASTED supported the work of regional innovation and poverty alleviation by science and technology, and completed the drafting of *Guidance on the Construction of Innovative Provinces and Guidance on the Construction of Innovative Cities*.

CASTED carried out researches on the “Authorized Strength of National 13th Five-Year Plan on Science and Technology Supporting Tibet” and “Benefit Promotion Mechanism of Science and Technology Supporting Tibet plan in New Era”. These reports received important feedback from leadership of the State Council.

Combining surveys on the issues of “Innovation and Entrepreneurship in New Urbanized Rural Area” and “Senary Industry Innovation and Urban-Rural Integration”, CASTED conducted researches on how to carry forward innovation reforms pilot at County level and formulated a series of research reports.

## 1.2

### Consultancy for scientific decision-making and policy-making

CASTED carried out the mid-term assessment of “Outline of Mid-to Long-Term National Talent Development Plan” commissioned by the Talent Bureau of the Organization Department of the Central Government.

CASTED participated in the research and drafting of *The State Council’s Opinions on the Promotion of the Development of Venture Capital* chaired by National Development and Innovation Committee.

CASTED supported Ministry of Finance in the research and drafting of the policies of equity and dividend incentives.

Commissioned by Ministry of Commerce, CASTED completed the research on current situation of foreign invested R&D centers and reported the results to Ministry of Commerce.

Commissioned by China Association for Science and Technology, CASTED carried out the research on “Assessment Indicators of Industry Innovation Capacity in Chinese Key Industrial Areas”.

Commissioned by State Intellectual Property Bureau, CASTED completed the report *Path Analysis of Granting Intellectual Property Service Institutions Beneficial Policies Enjoyed by High and New Tech Enterprises*.

Commissioned by National Natural Science Foundation, CASTED carried out the research on “Responsibilities and Organization Management of Public Professional Institutions”.



### 1.1 Strategy support for central government on STI decision-making



## 1.3

### Intellectual support for local S&T innovation-driven socio-economic development

#### 1.3.1 To guide and undertake the compilation of regional S&T project research.

To carry forward innovation-driven development strategy at the local level effectively and efficiently, CASTED carried out and completed many research tasks commissioned by provinces and municipalities such as “the 13<sup>th</sup> Five-Year STI Plan in Guangxi Zhuang Autonomous Region”, “Action Plan for Qingdao to Build National Maritime STI Center”, “Development Plan for Xiamen in the Fujian-Xiamen-Quanzhou Indigenous Innovation Demonstration Zone”, “Plan for the City of Gongqing in Jiangxi Province to Build National High-and New-Technology Area”, “Shenzhen Kegu Development Plan”.

#### 1.3.2 To provide decision-making consultancy directly or indirectly for locality

CASTED undertook local research tasks to provide consultancy and suggestions for local governments to boost the implementation of innovation-driven development strategy.

## 1.4

### Consultancy for enterprises and the society on innovation and entrepreneurship activities

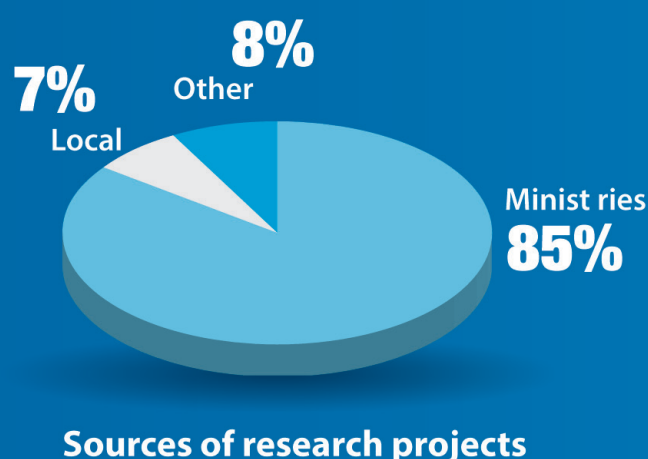
CASTED conducted researches on enterprise innovation. CASTED completed the study on the assessment of enterprises’ dominant position in technology innovation and produced the survey report entitled *Chinese Enterprises at the Threshold of High Innovation-driven Development Phase: an Analysis of Innovation Driving Force Indicators (2000 - 2014)*. CASTED also studied innovation modes of enterprises such as Huawei, Digital China and PetroChina and composed a report entitled *Suggestions on the Promotion of Enterprise’s Innovation-driven Integrated Development*.

CASTED provided innovation and entrepreneurial service for the society through industrial associations. CASTED carried out innovation and entrepreneurship related cooperative research and training programs for the society through the platforms of China Association for Promotion of Science & Technology and Finance, China Sodality of Scientific and Technological Institutes and China Science and Technology Indicator Research Association.

CASTED also devoted to the promotion of research achievements, academic exchange and information sharing on journals like *Forum on Science and Technology in China*, *Science and Technology of China*, and *Science and Technology Management Research* independently or jointly founded by CASTED.

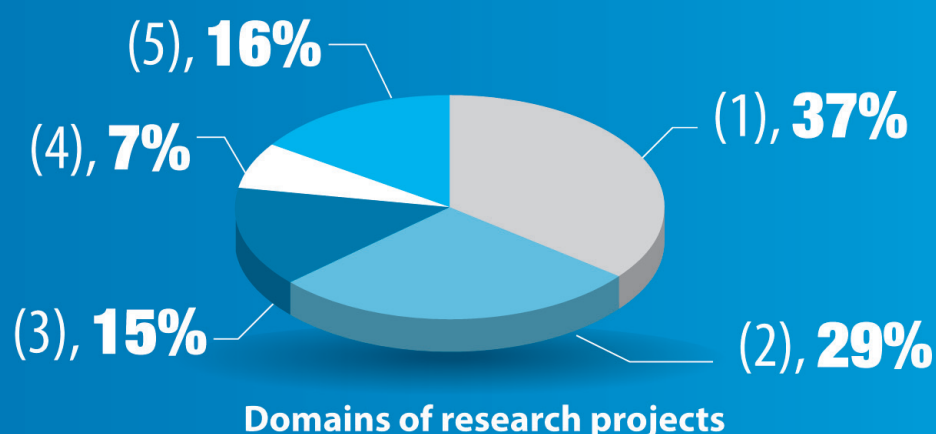
## 2.1 Projects

In 2016, CASTED initialized **107** research projects. The projects were assigned by ministries, local government departments and enterprises. The projects could be divided into **5** groups according to their research domains: (1) S&T Innovation strategy and plan, (2) S&T Innovation system and policy, (3) S&T and economy, (4) S&T and society, and (5) S&T Innovation foresight and monitoring.



No.	Project	Source
1	President Xi Jinping's New Concept, New Ideas and New Strategy on STI	Publicity Department, CCCPC
2	Implementing Innovation - Driven Strategy and Enhancing Economic Competitiveness	Publicity Department, CCCPC
3	Macro-level STI Trends and Progresses	MOST
4	STI as a Support for National Development Strategy Goals and Crucial Issues	MOST
5	Pilot Policies and Management Performance Evaluation of National Indigenous Innovation Demonstration Zones	MOST
6	Key Technology Needs and Solutions in the Economic New Normal	MOST
7	Methods to Support and Build Innovation-Driven Development in Provinces, Districts and Cities	MOST
8	Survey on S&T Entrepreneurship Initiated by S&T Researchers	MOST
9	Case Studies on Innovative Development of Enterprises with STI as Its Core	MOST
10	Business Cycle Survey and Analysis on High-and New-end Technology Enterprises	MOST
11	Follow-up Study on Strategic Emerging Industries	MOST
12	Senary Industry Innovation and Innovation-Driven Integrated Development of Urban and Rural Areas	MOST
13	Monitoring and Trend Analysis of Mass Entrepreneurship and Innovation	MOST
14	Follow-up Investigation on S&T Entrepreneurship in Key Areas	MOST
15	Innovation Cooperation to Facilitate International Production Capacity Cooperation	MOST
16	Directions and Key Areas to Implement Innovation-Driven Development Strategy during the 13th Five-Year Plan Period of Time	MOST
17	Regional S&T Development Strategy in the 13th Five-Year Plan	MOST
18	Regional Innovation Development and Regional Innovation Center Cultivate	MOST
19	Selection of Key National Technologies	MOST
20	S&T Expenditure Management Strategy in China	MOST
21	S&T Security Policies	MOST
22	Issues Related to Professional Institution Management	MOST
23	Leader Management Issues in State-Owned Research Institutions	MOST
24	S&T Planning Strategic Consult and Dynamic Adjustment Mechanism in Major Innovative Countries	MOST
25	Behaviors and Functions of Multi-Actors in the Promotion System of Agricultural Technology	MOA
26	Outline of the Strategic Planning for Traditional Chinese Medicine Development	State Administration of Traditional Chinese Medicine of P.R.C
27	Psychological Intervention Mechanism of S&T Employees	CAST
28	Impact of Youth S&T Funds on the Academic and Career Development of S&T Researchers	National Natural Science Foundation
29	Strategic Positioning and Development Path of National STI Centers Against the Background of Innovation-Driven Development in China	Beijing Municipal Science & Technology Commission
30	Study on Shanghai Deepening Construction STI Center Strategy	Shanghai Municipal People's Government
31	S&T Collaborative Innovation Strategies in Beijing-Tianjin-Hebei Region	Hebei Science and Technology Department
32	Planning for Big Data Industrial Technology Innovation Experimental Zone in Guiyang	Guizhou Science and Technology Department
33	Development Index of Military-Civilian Integration Industries in China S&T City (Mianyang)	China S&T City (Mianyang)
34	Supportive and Coordinative Project for Emergency Respond in China	UNDP
35	Global S&T Ethics	EU
36	Sustainable Development Index in China Against the Background of Globalization	Norway





## 2.2 Achievements

### 01 Internal References

In 2016, CASTED continued to study comments from ministerial leaders. Regarding issues concerned by the Ministry, CASTED initiated research projects and presented to the State Council the following reports: 98 Strategy Research References, 35 Survey Reports. Among them, 38 reports received comments from the ministerial leaders and 19 research reports were presented to the State Council through *MOST Research Report*.

CASTED initiated research projects on major issues including STI supporting supply-side structural reform and sharing economy. Reports composed by CASTED and presented to the State Council include: *"The Core of China's Supply-Side Reform and Macro-Level Economic Policies Viewed from Economic Growth Cycle"*, *"Excessive Intervention Makes China's Venture Investment 'Miserable'"*, and *"Sharing Economy as a Must for Realizing Sharing Development Ideas"*. Regarding genetic engineering, survey reports and analysis were presented for three days nonstop on the front page of *Science and Technology Daily* and were reprinted by *Renmin Daily* (Internal Reference) and *Science and Technology Daily* (Internal Reference), etc.





Annual reports published by CASTED include 'China National Innovation Index Report 2015', 'China Innovation Map 2016', 'Evaluation Report of Regional S&T Progress in China 2015', 'Monitoring Report of Regional Innovation Capacity in China 2015', 'Evaluation Report of Innovation Capacity in Enterprises in China 2016', 'Monitoring Report of Innovation Capacity in Higher Education Institutes in China 2016', 'Venture Capital Development in China 2016', 'Annual Observations on S&T Finance Ecosystem in China', 'Pujiang Innovation Forum Achievements 2016', and The first 'National Innovation System Development Report' etc.

## 02 Annual Reports

Academic publications of CASTED include *Inclusive innovation in China*, *Comprehensive Innovation: Innovative-Driven Strategic Path*, *Theoretical and Empirical Research on Regional Innovation Model Selection*, *Beijing's Science and Technology Innovation Development Report - Science and Technology Development Pattern of Beijing*, *Science, Technology and Policies of India*, *Beijing-Tianjin-Hebei Collaborative Innovation Theory and Practice*, etc.

## 03 Academic publications

140 Academic papers of CASTED include *Ideas and Suggestions on Development of S&T Innovation Think Tank System with Chinese Characteristics*, *Challenges and Policies to the Transformational Development of National High-Tech Zones*, *The Meaning of R&D investment reaching 2.07%*, *Development of Multi-Type Non-Profit Scientific Research Institutions*, etc. had been published in the *Guangming Daily*, *Science and Technology Daily*, study times and other media. *How Social Networks Affect Scientific Performance and Evidence from a National Survey of Chinese Scientists*, *Key Issues of Inclusive Innovation and International Experience Analysis*, *Status and Policy Suggestions of China's Electric Vehicle Industry*, *New Features of the Paris Agreement and the Sino-Indian Cooperation Suggestions*, etc. articles had been published in *Science, Technology & Human Values*, *China Science and Technology Forum*, *Science and Technology Management Research*, *Global Science and Technology Economic Outlook* and other journals.

## 04 Academic papers



# Cooperation and Communication

## 3.1 Cooperation and Communication Outside China



Field study in Suzhou



The 4<sup>th</sup> meeting of first governing board

**CASTED gave full play to its “1+7” international cooperation platform through international cooperation and communication at different levels.**



The 5<sup>th</sup> international training program



International seminar

### ● International Research and Training Center for Science and Technology Strategy (CISTRAT) Under the auspices of UNESCO

International Research and Training Center for Science and Technology Strategy (CISTRAT) held its 5<sup>th</sup> international training workshop titled “STI Policy Research and Method in Belt and Road Countries”. 13 foreign participants from 7 countries (Algeria, Bolivar, Cambodia, Indonesia, Mali, Paraguay, and Senegal) and 7 Chinese participants from provincial S&T departments attended the training workshop.

CISTRAT organized the 4<sup>th</sup> meeting of its first governing board in which Mr. YIN Hejun, Vice Minister of MOST, hosted the meeting as the new chairperson.

CISTRAT organized an international seminar named “Opportunities and Challenges of Science and Technology Innovation in Developing Countries”.



● **China-EU Innovation Cooperation Dialogue:** CASTED invited the Minister Counselor from the EU delegation in China, and other experts from international institutes in the field of science and technology policy for the Sino-EU cooperation and joint research.

● **Sino-German Innovation Policy Platform:** In April, CASTED co-organized and participated in the 4th Sino-German Innovation Conference held in Berlin. For the first time, the conference established a cross-platform cooperation mechanism highlight the achievements from two countries, summarized the experience and explored the future opportunity. Also, two countries carried out the National Strategic Cooperation Research.

● **Liaison Office of China-OECD STI Cooperation:** The Liaison Office constantly developed its communication and cooperation with OECD, especially Committee of Science and Technology Policy (CSTP). In March and September, OECD experts visited CASTED; In May, CASTED attended the International Workshop on Share of Large-Scale Research Infrastructure in Switzerland; In September, CASTED was invited to participate in the 3<sup>rd</sup> Blue Sky Meeting organized by OECD in Belgium. CASTED finished the first Chinese Edition of *OECD-Frascati Manual* (7<sup>th</sup> edition), the translation work of *Intellectual Property Measurement Handbook*, and provided the advice to the *Oslo Manual* to the editorial board. CASTED compiled *Overview of Inclusive Innovation Policies in the People's Republic of China*, which was published on the official website of OECD Inclusive Innovation project.

● **China-Japan-Korea S&T Policy Research and Cooperation Platform:** In October, President HU Zhijian attended the 11<sup>th</sup> China-Japan-Korea S&T Policy Seminar in Republic of Korea, during which the topics such as National Innovation System and Intellectual Property Management were fully discussed by experts from Japan National Institute of Science and Technology Policy (NISTEP), Korea Institute of Science and Technology Evaluation and Planning (KISTEP) and Science and Technology Policy Institute (STEPI).

● **China-US Non-Governmental Dialogue on Science, Technology and Innovation:** As a member of expert group, CASTED co-organized the *China-US Non-Governmental Innovation Dialogue*, which focused on the cutting edge and hot issues in the field of S&T Innovation. The Dialogue exchanges of the scholars from two countries, provided the policy support to the bilateral governments.

● **China-ASEAN Innovation Policy Research Center:** In January, Dr Pichet Durongkaveroj, Minister of Science and Technology of Thailand visited CASTED. In May, CASTED organized related institutions to attend the "Entrepreneurship Thailand 2016" Expo.

● **China-Korea S&T Innovation Forum:** In December, CASTED co-organized the 6th China- Korea Science and Technology Innovation Forum with the theme of Innovation and Entrepreneurship, Win-Win Cooperation. Experts from China and Korea exchanged academic view in-depth in four aspects as: the scientific and technological innovation policy, nano technology, biology, and information and communication technology.





Visitors from EU Delegation



President HU Zhijian Presenting on the 4<sup>th</sup> China-Germany Innovation Conference

## CASTED constantly improved its internationalization level of strategic research in a variety of forms.

- CASTED undertook projects with UNDP, WIPO and EU; It also worked with experts from RAND Corporation of US, research institutes in Norway and Korea on 6 joint research projects.
- CASTED received visitors from international organizations such as UNESCO, the World Bank and EU as well as delegation from RAND Corporation, Oxford University and other institutes for 20 times.
- CASTED sent 35 researchers to Germany, UK, Ireland, Belgium, Republic of Korea, Japan and Brazil and other countries for total 14 times.
- CASTED accepted 4 foreign visitor scholars, 1 researcher was seconded to WIPO.
- CASTED give speech at international conference more than 10 times .



The 1<sup>st</sup> China - India Seminar on Science, Technology and Innovation Cooperation



International Seminar on the Belt and Road Initiative

## CASTED Organized and participated in a series of international Science, Technology and Innovation Forums

Transfer between China and UK", which was part of "2016 Pujiang Innovation Forum".

● In June, CASTED co-organized "The 2<sup>nd</sup> Seminar on China - South Asia Technology Transfer and Innovation Cooperation".

● In September, CASTED organized an International Seminar on the Belt and Road Initiative under "2016 Pujiang Innovation Forum".

● In October, CASTED organized an International Seminar on "China's Scientific Research Institutions and Energy Industry Innovation".

● In December, CASTED organized and designed topics of "Sino - British Roundtable Meeting on Innovation Cooperation".



The 6<sup>th</sup> China -Korea S&T Innovation Forum

● In January, CASTED organized "The 1<sup>st</sup> China - India Seminar on Science, Technology and Innovation Cooperation".

● In June, CASTED participated and co-organized sub-forum in UK named "The Ecological Chain of Technology



#### CASTED actively expands new channels of international cooperation

- Together with Science and Technology Policy Research Center, in University of Sussex (UK) and research institutes from Finland, Norway, South Africa and other countries, CASTED took part in the founding of "Transformation Innovation Policy Consortium";
- Together with research institutions from India, Iran, Pakistan and other countries, CASTED planned to establish "Cooperation Mechanism for Science, Technology and Innovation Strategy Research in the 'Belt and Road' Countries".
- Together with African Technology Policy Study Network, CASTED decided to expand China-Africa research cooperation channels on science and technology innovation strategy.

#### 3.2 Cooperation and Communication Inside China



Seminar on the Development of Big Data Industry Technological Innovation Pilot in Guiyang City

##### ● CASTED conducted joint research projects at various levels

Among the 107 projects initiated this year, 25 were jointly participated by other local institutes.

##### ● CASTED Co-cultivates talents in S&T strategy and policy research

CASTED accepted 12 visiting scholars and 5 post-doctors from partner institutions.

##### ● CASTED provided STI development consultation service for local governments

CASTED provided consultation service on S&T development for Guangxi, Ningxia, Guizhou province, and Shenzhen, Xiamen, Tsingdao, Shenyang, Jiujiang city; hosted delegations more than a hundred times from Guangdong, Guizhou, Ningxia, Henan province.





Policy Sub-Forum of "2016 Pujiang Innovation Forum"

### ● CASTED hosted academic workshop

CASTED invited experts from related institutions in China for over 20 academic reports.

### ● CASTED organized various forms of communication and trainings

Based on 3 S&T research community organizations, namely China Sodality of Science and Technology Institutes, China Research Council for Science and Technology Indicators, and China Association for Promotion of Science and Technology Finance, CASTED carried out training programs on science and technology planning, science and technology statistics, science and technology finance; and joint research on scientific and technological innovation policy, innovation and entrepreneurship, etc.

### ● CASTED hosted (co-organized) series of forums

CASTED co-organized policy sub-forum and cultural sub-forum of "2016 Pujiang Innovation Forum", as well as "International Symposium on the Belt and Road Initiative" of 2016 Pujiang Innovation Forum. As the supportive organization of the academic committee of the Forum, CASTED designed the theme and sub-forum topics of 2017 Pujiang Innovation Forum; CASTED co-hosted "China Science and Technology Forum • Military-Civil Integration, Innovation and Entrepreneurship" with Mianyang Municipal Government of Sichuan province.



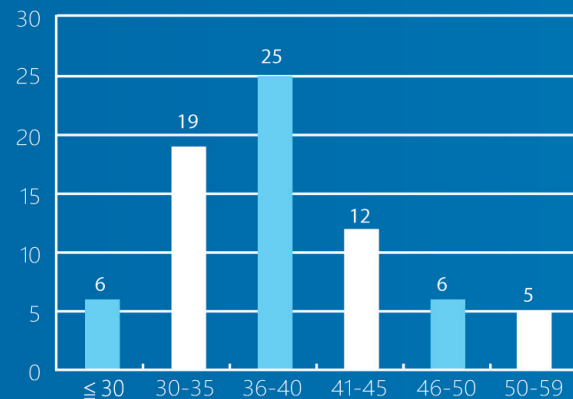
Report on "World Science Center Transfer"



Report on "Agricultural Supply-Side Reform"

## 4.1 Staff

By the end of 2016, CASTED has **86** full-time staff members among whom 75 are researchers, **12** are post doctors, **69** have master's degrees, 52 have doctoral degrees, and **60** have senior professional titles. A CASTED researcher was selected as candidate of China's New Century Talents Project and **7** were granted special allowances by the State Council.



**Researchers grouped by age**

## 4.2 Culture

In 2016, in order to promote cultural construction, CASTED held a series of activities which enhanced the cohesion and capacity of the team, consolidated the cultural foundation with the characteristics of prudence, vitality and integrity, and provided a solid thought and organization foundation to guarantee high-quality services for the research on STI strategy and policy.

► **Labor Union activities:** CASTED organized “Embrace the Spring” Women’s Day Activity, and International Children’s Day Activity.

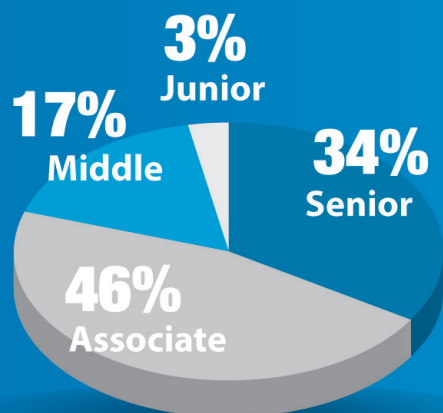
► **‘Reading, Studying and Learning’ Activities:** CASTED organized over 20 activities and won the title of 2016 annual “Outstanding Learning Brand” at central level.

► **Youth Activities:** Our youth team, officially named CASTED Youth, organized reading sessions named as “Reading Academic Classics, Building up Theoretical Foundation” and seminars on national development conditions .

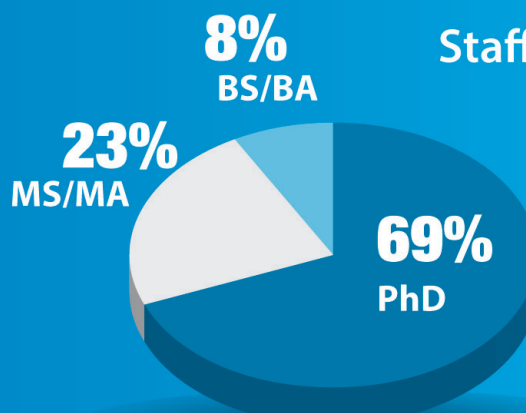
► **Recreational Activities:** CASTED participated in the 4<sup>th</sup> Staff Sports Meeting of MOST and won the excellent organization award. In Chinese New Year Gathering, CASTED performed a short act called “CASTED Youth Roast”.



## Staff and Culture



Researchers grouped by professional title



Researchers grouped by education



Outdoor Walking Activity on Womens Day named "Embrace the Spring"



The Newly Elected Group of CASTED Youth



the 4<sup>th</sup> MOST Staff Sports Meeting



A Short Act Named "CASTED Youth Roast" Performed in Chinese New Year Gathering

▶ On January 25<sup>th</sup>, CASTED organized the 1<sup>st</sup> Sino-Indian Seminar on S&T Innovation Cooperation which opened up a new channel for the cooperation and communication.

▶ On January 25<sup>th</sup>, CASTED was visited by Mr. XU Nanping, Vice Minister of Science and Technology.

▶ From April 13<sup>th</sup> to 14<sup>th</sup>, CASTED participated in the 4<sup>th</sup> Sino-Germany Innovation Conference held in Berlin, when President Hu Zhijian, on behalf of the Sino-German expert group, made a keynote speech and presented updated progress on Sino-German scientific and technological innovation cooperation.

▶ On April 27<sup>th</sup>, CASTED established Industrial Innovation Research Consortium in Beijing with Shanghai Institute for Science of Science (SISS), Jiangsu Academy of Science and Technology for Development, and Zhejiang Academy of Science and Technology for Development.

January

February

April

May

▶ On February 29<sup>th</sup>, CASTED and MOST jointly issued *China S&T Statistics Data Book 2015*.

▶ On May 11<sup>th</sup>, CASTED officially changed the name of Youth Group into CASTED Youth.

▶ From May 13<sup>th</sup> to 14<sup>th</sup>, CASTED, UNESCO and SISS co-hosted 2016 International Forum on Technology Foresight in Shanghai themed by Big Data and Technology Foresight.

▶ From May 26<sup>th</sup> to 27<sup>th</sup>, CASTED and Mianyang municipal government co-hosted The 10<sup>th</sup> "China Science and Technology Forum • Military and Civilian Integration, Innovation and Entrepreneurship" in Mianyang, Sichuan Province.

▶ In May, Mr Chen Baoming, director of the Institute of Comprehensive Development, was appraised by the Publicity Department of the Central Government and the Ministry of Justice of the People's Republic of China as "2011-2015 National Legal Publicity and Education Advanced Individual".



# Memorabilia

▶ On June 29<sup>th</sup>, CASTED organized a press conference on National Innovation Index Report 2015, attracting Xinhua News Agency, China News Service, *People's Daily*, *Guangming Daily*, *Economic Daily*, *Science and Technology Daily*, Rui Technology and many other news agencies.

▶ On August 2<sup>nd</sup>, CASTED published achievements of the 5<sup>th</sup> national technology foresight at the *Science and Technology Daily*.

June

July

August

September

▶ On July 6<sup>th</sup>, CASTED was visited by Mr. Vladimír Šucha, Director of the Joint Research Centre of European Commission.

▶ On July 20<sup>th</sup>, CASTED organized a press conference on China's Regional Science and Technology Progress Evaluation Report 2015, attracting CCTV, Xinhua News Agency, China News Service, *People's Daily*, *Guangming Daily*, *Economic Daily*, *Science and Technology Daily*, Rui Technology and many other news media.

▶ From September 23<sup>th</sup> to 26<sup>th</sup>, CASTED participated as one of the organizers in Pujiang Innovation Forum 2016. CASTED hosted the policy sub-forum, the culture sub-forum and the Belt and Road STI Seminar titled "Building the Belt and Road Innovation Community". It also released *Annual Observations on S&T Finance Ecosystem in China 2016*.

▶ On September 26<sup>th</sup>, CASTED was visited by Mr. YIN Hejun, Vice Minister of MOST.

▶ On September 29<sup>th</sup>, CASTED was visited by Mr. LI Ping, President of *Science and Technology Daily*.

## Memorabilia

- ▶ From November 1<sup>st</sup> to 18<sup>th</sup>, CASTED and CISTRAT organized the 5<sup>th</sup> international training program entitled "The Belt and Road countries Research and Method of STI Policy, and the International seminar titled "STI Opportunities and Challenges for Developing Countries".
- ▶ On November 10<sup>th</sup>, Mr. WANG Zhigang, Secretary of MOST Party Committee visited CASTED.
- ▶ On November 21<sup>st</sup>, President HU Zhijian was elected as the representative of the 16<sup>th</sup> People's Congress of Haidian District, Beijing.
- ▶ In November, CASTED won the title of 2016 annual "Outstanding Learning Brand" for holding "Reading, Studying and Learning" activities.

October

November

December

- ▶ On October 1<sup>st</sup>, CASTED published *China Venture Capital Development Report 2016*.
- ▶ On October 20<sup>th</sup>, CASTED, Institute of Science and Development of CAS, SISS and Professional Committee of Technology Foresight from Chinese Association for Science of Science and S&T Policy co-hosted the 11<sup>th</sup> National Seminar on Technology Foresight in Hangzhou themed by "Technology Foresight: Innovation-Driven and Megatrend of Industry Reform."
- ▶ In October, CASTED completed the research of "Sino-German STI Cooperation Strategy".

- ▶ On December 6<sup>th</sup>, CASTED organized Round Table meeting of the Sino - British Innovation and Cooperation in Shanghai. It is co-hosted by MOST and British Ministry of Business, Energy and Industry Strategy.
- ▶ On December 14<sup>th</sup>, Mr. LI Meng, Vice Minister of Science and Technology attended a CASTED Youth activity on sharing national development dynamics.
- ▶ On December 20<sup>th</sup>, CASTED co-organized the 6<sup>th</sup> Sino-Korea STI Policy Forum titled "Innovation and Entrepreneurship, Win-Win Cooperation"
- ▶ In December, CASTED compiled the *first National Innovation System Development Report*.
- ▶ In December, CASTED supported research projects focusing on Major S&T Projects in the National 13<sup>th</sup> Five-Year Plan, Modern Service Industry in the National 13<sup>th</sup> Five-Year Plan, Technological Innovation Projects in the National 13<sup>th</sup> Five-Year Plan, Mid-to-Long Term Planning for Talent Training in International S&T Organizations, and Measures for the Implementation of National Innovation Investigation System.



# Publications



## Forum on Science and Technology in China

- A monthly journal launched in 1985;
- It is an influential publication included in: Chinese core periodical, source periodical of *Chinese Social Sciences Citation Index (CSSCI)*, core periodical of the Comprehensive Evaluation of AMI in the Chinese Humanities and Social Sciences, source journal for Chinese Scientific and Technical Papers and Citations, and Chinese Core Academic Journal of RCCSE;
- It publishes academic papers on the theory and practice of S&T development strategies, policies and management;
- Its target readers include S&T and economy leaders, S&T strategy and policy researchers, etc.



## China Sci-Technology Business

- A monthly non-academic journal launched in 1996 (previously named *Science and Technology Pictorial*) aiming to promote S&T commercialization in China;
- The journal focuses on S&T policies and frontiers, industrial policies and trends, R&D management, innovation and venture theory and practice, venture investments and business management;
- Its target readers include S&T management personnel, R&D personnel, entrepreneurs, business managers and investors.