



2017

Chinese Academy of Science and Technology for Development



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

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



United Nations
Educational, Scientific and
Cultural Organization

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

In 1982, the National Research Center for Science and Technology for Development (NRCSTD) was established, for which Comrade Deng Xiaoping penned a calligraphic inscription.

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

中國科技促進發展 研究中心

研+字

Chinese Academy of Science and Technology for Development



The Chinese Academy of Science and Technology for Development (CASTED), a public institution directly under the Ministry of Science and Technology, is committed to providing strategic research and consultations of decisions for China's science, technology and innovation (STI) development. It was inaugurated in 2007 on the basis of the former National Research Center for Science and Technology for Development (NRCSTD) which was established in 1982.

CASTED has eight research departments which are Institute of Comprehensive Development, Institute of Science and Technology Systems and Management, Institute of 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 Rural and Regional Development, and Institute of Science, Technology and Society and three administrative departments including Party Committee Office, General Office, and Research Management Office. It sponsors three national organizations, i.e., China Federation of Scientific and Technological Institutes, China Society for Science and Technology Indicators, and China Association for Promotion of Science & Technology and Finance. It publishes two journals, i.e. *Forum on Science and Technology in China* and *China SciTechnology Business* and runs a post-doctoral research center and the Chinese Institute of the Senary Sector. CASTED hosts various international cooperation platforms including the China-EU Innovation Cooperation Dialogue and the China-Germany Innovation Policy Platform.

For over three decades, CASTED has always oriented itself towards the needs of national development in a pioneering and pragmatic way and played an important role in supporting China's STI policymaking. It has become a major research base dedicated to China's STI strategy and policy.

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



The International Research and Training Centre for Science and Technology Strategy (CISTRAT) under the Auspices of UNESCO is the first Category 2 center of UNESCO to focus on research and training for science and technology policy and innovation strategy, and also the first S&T and policy Category 2 center in China. Since its inauguration in September 2012, CISTRAT, hosted by CASTED, has shared with developing countries China's experience in extensive areas including sustainable development, S&T strategy, and S&T for poverty reduction through research collaboration and training activities geared to improving S&T strategy research and management. It provides free training in STI strategy and policy each year for third-world countries and underdeveloped regions.

President's Address



“

The convening of the 19th CPC National Congress in 2017 marked the entry of socialism with Chinese characteristics into a new era. The historic and epoch-making meeting featured Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, a long-term guide to action for the Party and the country. In his report to the congress, General Secretary Xi Jinping emphasized innovation as the primary driving force for development and the strategic underpinning for building a modernized economy.

”

(President of CASTED)

In 2017, we focused on providing high-level services in policymaking and on conducting research on major strategic issues of the country's STI development. We carried out research on a series of major subjects, including Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as it relates to S&T, implementation of the innovation-driven development strategy and improvement of economic competitiveness, STI and supply-side structural reform, building of a country of innovators, international frontier S&T research, STI in military-civilian integration, STI development planning of Xiong'an New Area, National Plan of Next-Generation Artificial Intelligence, national innovation surveying system, modern finance system, international STI cooperation under the "Belt and Road" initiative, the sharing economy, key issues including technology and finance, industrial innovation, S&T program management reform, S&T innovation in rural areas, S&T talent development, and S&T and society.

We adhered to strengthening pragmatic international cooperation and improved the internationalization of strategic research. We deepened cooperation with leading international think tanks such as Royal Society, Brookings Institution and Oxford University and actively took part in various intergovernmental cultural exchange and innovation strategy and policy dialogues with countries such as the U.S., UK, and Germany. We fully performed the responsibilities and obligations of the International Research and Training Centre for Science and Technology Strategy (CISTRAT) under the Auspices of UNESCO. We carried out research collaboration projects with various international organizations and internationally famous organizations including the EU, OECD, WIPO, UNDP and the Fafo Research Foundation of Norway, and organized a lot of international academic exchange activities. We strengthened cooperation with relevant organizations in countries such as Russia and Pakistan to advance the "Belt and Road" innovation policy cooperation network.

We adhered to capacity building and institutional innovation to build a high-level national STI-centered think tank. We actively promoted the transformation of our strategic research activities and further clarified the focus research areas with the view of building unique strengths in relevant areas and disciplines. We emphasized young talent development to solidify our research foundation, while exploring internal reforms to highlight the orientation to contribution in terms of decision support.

In 2018, we will thoroughly study and implement the spirit of the 19th CPC National Congress and, with Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as the guide, push ahead with reform and innovation, to further strengthen high-level strategic research with solid expertise and an international horizon, and strive to achieve more in providing research support for high-level STI policymaking.

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*Forum on Science and Technology in China,
China SciTechnology Business*

Think Tank Research

Subject Research for Summarization of Key Practices and Experience of the Marxist Theory Research and Development Project of the Publicity Department of the CPC Central Committee in 2016

CASTED undertook and completed research on two subjects, "Research on General Secretary Xi Jinping's New Concepts, New Thoughts and New Strategies on Science, Technology and Innovation" and "Research on Implementation of the Innovation-Driven Development Strategy and Improvement of Economic Competitiveness", and wrote a series of research reports, including articles published in *Ziguangge* and *Study Times* on reflection and interpretation of Xi Jinping Thought on STI and the publicity article, "China's Achievements and Experience in Innovation-Driven Economic Transformation and Upgrade", submitted to the Publicity Department of the CPC Central Committee.

Research on Supply-Side Structural Reform

CASTED completed "Give Full Scope to STI as the Core Driver of the Supply-Side Structural Reform" which was submitted to the Office of the Central Leading Group for Comprehensively Deepening Reform. It also conducted

Focusing on Frontier Theory and Strategy 1.1

In 2017, CASTED made active efforts in its development as a national high-level think tank. Specifically, it adjusted its scope of research with a sharper focus on major strategic subjects highlighted by the CPC Central Committee, the State Council and the Leading Party Group and leaders of the Ministry of Science and Technology, and established "high-level" strategic research as its focus.

research on organization and management of key research projects and supporting the supply-side structural reform with key research projects.

Research on Avoiding the Middle-Income Trap

CASTED completed research on "Avoiding the Middle-Income Trap through STI", with the research report being submitted to the Office of the Central Leading Group for Comprehensively Deepening Reform.

Research on Building of "Country of Innovators"

CASTED completed projects such as "Achievements and Gap: China's Efforts to Build a Country of Innovators Measured Based on Indicator Analysis" and "Entering and Leading the Ranks of Innovative Countries: Basic Indicators, Specific Goals and Key

Research Tasks" and submitted the research reports to the Leading Party Group of the Ministry of Science and Technology.

Research on Frontier S&T Subjects

CASTED conducted research on development, strategy and policy of key frontier technologies such as artificial intelligence, gene editing, quantum technology and network security, with some research results being included in the reference materials for theoretical study of the Leading Party Group of the State Council, including the "New Trends and Characteristics of China's S&T Development" which was submitted to Vice Premier Liu Yandong as a briefing paper.





1.1 Focusing on Frontier Theory and Strategy

Research on S&T in Military-Civilian Integration

CASTED conducted research on S&T in military-civilian integration, with subjects including assessment, mechanism and innovation policy, and financial support. Outcomes include “Reflection and Suggestions on Promoting Military-Civilian Integration” and signed articles co-authored by Ministry of Science and Technology leaders and Science and Technology Committee of the Central Military Commission leaders.

Research on STI Development Planning of Xiong’an New Area

CASTED, in accordance with the instruction of the Leading Party Group of the Ministry of Science and Technology and together with relevant departments completed the “Research on STI Development Plan of Xiong’an New Area” with five key strategic initiatives (Development-leading City of Science and Technology, City of Technology Startups, New National Center of Industrial Innovation, Green and Smart City of Tomorrow, and Pioneering Zone for Opening and Innovation) and several policy measures. The research report

has been submitted to the CPC Hebei Provincial Committee and the Hebei Provincial Government.

Research on National Plan of Next-Generation Artificial Intelligence

CASTED drafted the Plan of Next-Generation Artificial Intelligence and its interpretation and provided support for the release of the Plan by the State Council in July 2017. It also participated in research on the implementation of the Plan.

Research on the Mid-Term Assessment of the National Medium- and Long-term Talent Development Plan

CASTED, commissioned by the Office of the Central Coordination Group for Talent Work, conducted a systematic assessment of 12 key talent projects in the National Medium- and Long-term Talent Development Plan (2010-2020) in terms of achievements and problems and prepared the mid-term assessment report, which was highly rated by the Talent Bureau of the Organization Department of the CPC Central Committee.

Special Research on Knowledge Value Oriented Distribution Policy

To implement the *Several Opinions on Implementing Distribution Policy Oriented to Increasing the Value of Knowledge* jointly issued by the General Office of the CPC Central Committee and

the General Office of the State Council, CASTED conducted theoretical research and field investigation and took part in the inspection of the implementation of the policy and the drafting of the inspection report.

Research on the National Innovation Surveying System

CASTED drafted the Implementation Measures of the National Innovation Surveying System and wrote the *National Innovation Index Report 2016-2017* (Chinese and English), *China Regional STI Assessment Report 2016-2017*, *China Regional Innovation Capacity Monitoring Report 2016-2017*, and other monitoring and assessment reports.

Research on International STI Cooperation under the “Belt and Road”

CASTED drafted the “Belt and Road” International STI Cooperation Action Plan and Implementation Scheme, which provided research support for the “Road of Innovation” advocacy put forward by Chinese President Xi Jinping at the Belt and Road Forum for International Cooperation.

Research on China-UK STI Cooperation Strategy

CASTED conducted research on strategies, key areas and directions for China-UK STI cooperation and drafted the framework for the bilateral strategic cooperation. It also provided research support for the strategy’s implementation and the convening of the China-UK STI Cooperation Conference in UK.

Research on Macroeconomic and S&T Situation

CASTED analyzed the macroeconomic and S&T situations, new growth drivers and high-



tech business development for each quarter in 2017, predicted the economic prospect of 2018, and submitted a series of research outcomes to the State Council, including contents on innovation-driven development and fostering of new growth drivers which were adopted in the Report to the Central Economic Work Conference.

Research on National Research Program Management Reform

CASTED conducted research on deepening reform on science and technology planning and management and integrating with the global innovation network and provided research support for the policy of encouraging overseas scientists to lead and participate in national research programs and for the improvement of relevant consulting mechanisms including the inter-ministerial joint conference on national research program management.

Research on S&T Metrics and Statistics

CASTED conducted thematic research on subjects including R&D intensity, total factor productivity, basic research, transformation of research achievements, and building of a S&T power, and completed a series of related reports for 2016, including China Statistical Data on Science and Technology, Quarterly Monitor Data and Statistical Report on Science and Technology.

Research on Participation of Private Capital in Major National Research Programs

CASTED conducted analysis on new models of government guiding the private sector to support technological innovation based on study visits to relevant entities including S&T departments of local governments, leading technology companies, industry alliances and research institutes and wrote thematic research reports.

Research on STI Development Plan for Modern Service Sector

CASTED completed thematic research on STI development in the modern service sector in the light of the new situations of STI landscape of the sector and participated in the drafting of the STI Development Plan for the Modern Service Sector during the time of the 13th Five-year Plan.

Research on Industrial Innovation

CASTED wrote reports including "Evolution from Industry Policy to Innovation Policy", "Industry Policy Trends and Innovation Policy 3.0", "The 'Neglected' Industry Policy: Innovation Policy Evolution and Future" and "Research Report on 'Adhering to the Indigenous Innovation Path of Chinese Characteristics'", and initiated the Strategic Emerging Industries Purchasing Manager Index (EPMI) which is published in the Economic Daily on a regular basis.

Research on S&T for Poverty Reduction and County-level STI Development

CASTED conducted research on China's experience in leveraging S&T for poverty reduction over the past thirty years and provided decision support for International Poverty Reduction Center in China. It drafted "Guiding Opinions on Innovation-Driven Development at County Level" in support of the organization and development of the second batch of entities under the national XING CHUANG TIAN DI program.

Research on Implementation of Major Decisions of the CPC Central Committee on STI

CASTED participated in investigation and drafted the report "Research on Implementation of Major Decisions of the CPC Central Committee on STI", which was commented by several ministerial officials and submitted to the Central Commission for Discipline Inspection.

Research on S&T and Finance

CASTED drafted a series of S&T and finance systems and documents, including "Notice on the Relevant Pilot Tax Policies for Venture Capital Enterprises and Individual Angel Investors", state-owned share transfer, annual reporting system, and green loan statistics system.

Research on the Sharing Economy

CASTED conducted a questionnaire survey of public participation and willingness in China's sharing economy and wrote the research report, with its findings published in various publications and articles including *Social Blue Paper: Chinese Society Situation Analysis and Forecast 2018*.

1.2 Centering on Significant National Policymaking

Research on Tax Policy for Innovation and Entrepreneurship

CASTED, commissioned by the Ministry of Finance, People's Bank of China and China Banking Regulatory Commission, conducted research on implementation of the "Second Batch for Pilot for Promotion of Integration of Sci-Tech and Finance" and participated in the drafting of documents including *Compilation of Incentive Tax Policies for Innovation*, *Guidance Manual on Weighted Deduction of R&D Spending* and *Notice on the Relevant Pilot Tax Policies for Venture Capital Enterprises and Individual Angel Investors*. It also participated in research on tariff-free import and research on and formulation of policies and measures on incentive tax on STI import, STI development, research and teaching supplies management, technology import and export, and personal income tax incentives for transformation of research achievements.

Research on World Centers of Science, Technology and Innovation

CASTED, commissioned by Commission for Science, Technology and Industry for National Defense, conducted research on major consulting projects including "Patterns of Evolution of World Centers of Science, Technology and Innovation" where it summarized and analyzed patterns of formation and evolution of world centers of science, technology and innovation, identified the characteristics of their geographical distribution and offered policy suggestions.

Supporting Development and Reform in Relevant Areas

1.3

Research on Intellectual Property Service Organizations

CASTED, commissioned by State Intellectual Property Office (SIPO), conducted a thematic research on intellectual property creation under "Evaluation of the Outline of the National Intellectual Property Strategy after Ten Years of Implementation" and completed report *Analysis on Policy Roadmap to Give Intellectual Property Service Organizations the High-Tech Enterprise Status*.

Venture Capital Research

CASTED, commissioned by National Bureau of Statistics, organized the 16th national survey on venture capital and published *Venture Capital Development in China 2017*.

Research on Basic Research Talent

CASTED, commissioned by National Natural Science Foundation of China, conducted research projects including "Research on China's Basic Research Personnel by Discipline — A Survey of NSFC-funded Research Projects and Their Implementation Entities".

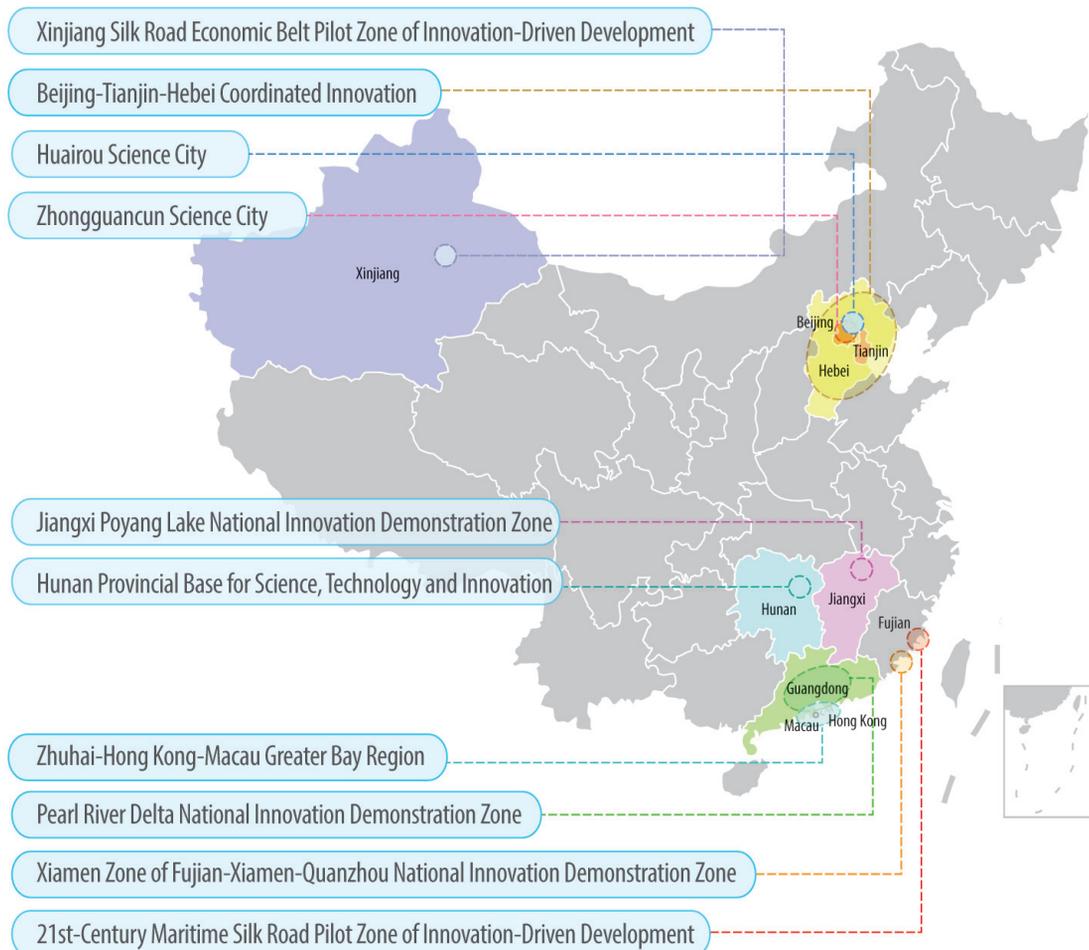
Research on Researchers

CASTED, commissioned by China Association for Science and Technology, conducted research projects including "Research on Psychological Intervention for Researchers", "Research on Career Development of Young Researchers" and "Survey on Public Image of Researchers".

Research on Modern Financial System Planning during the 13th Five-year Plan Period

CASTED, commissioned by People's Bank of China, conducted a survey and research with a view to increasing the role of financial services in serving the real economy and supporting the real economy transformation, where it put forward basic directions of China's S&T finance reform and opening-up and key tasks of China's S&T finance development and submitted a research report.

Serving Innovation Planning in Key Regions 1.4



2.1 projects

In 2017, CASTED initiated **90** research projects commissioned by central and local government departments and enterprises.

58

central government
departments

20

local government
departments

12

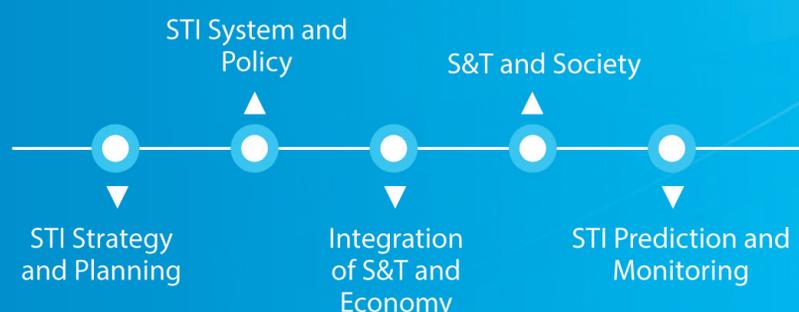
other sources

No.	Project Name	Source	Principal(s)
1	Research on General Secretary Xi Jinping's New Concepts, New Thoughts and New Strategies on Science, Technology and Innovation	Publicity Department of the CPC Central Committee	Hu Zhijian, Lin Xin
2	Research on Implementation of the Innovation-Driven Development Strategy and Improvement of Economic Competitiveness	Publicity Department of the CPC Central Committee	Hu Zhijian
3	Research and Formulation of Artificial Intelligence 2.0 Plan	Ministry of Science and Technology	Hu Zhijian
4	Research on Design of Legal Person Governance Structure of Specialized Organization in Transition	Ministry of Science and Technology	Xue Shu
5	Research on Major Measures to Strengthen Enterprise-based Cross-domain and Cross-sector Coordination and Integrated Innovation	Ministry of Science and Technology	Chen Baoming, Yu Liang
6	China-Africa STI Cooperation Three-Year Action Plan	Ministry of Science and Technology	Chen Baoming
7	Research on the National STI Think Tank System	Ministry of Science and Technology	Ding Minglei
8	Summarization of Early-phase Research Outcomes Regarding the National STI Plan during the 13 th Five-year Plan Period	Ministry of Science and Technology	Chen Baoming
9	Summarization and Analysis of Local STI Plans	Ministry of Science and Technology	Yu Liang
10	Linkage and Implementation Mechanism of the National STI Plan during the 13 th Five-year Plan Period and Subject Plans	Ministry of Science and Technology	Peng Chunyan
11	Research on International STI Governance System Theory and International Experience	Ministry of Science and Technology	Li Zhe, Kang Qi
12	Research on Construction of a Specialized Institution Management System	Ministry of Science and Technology	Lu Yangxu
13	Research on Tax Policy for Guiding Venture Capital to Support Scientific and Technological Innovation	Ministry of Science and Technology	Xue Wei, Wei Shijie
14	Research on the Impact of Comprehensive Implementation of "Replacement of Business Tax with Value-Added Tax" on China's Science and Technology Innovation	Ministry of Science and Technology	Xue Wei, Wei Shijie
15	Research on National Technology Early Warning System	Ministry of Science and Technology	Wang Ge
16	Research on Emerging Industry Innovation Ecosystem	Ministry of Science and Technology	Chen Zhi
17	Research on STI in Support of Stable and Fairly Rapid Economic Growth: Situation and Developments	Ministry of Science and Technology	Chen Baoming
18	Research on Digital Economy Development	Ministry of Science and Technology	Chen Zhi
19	Research on Investment and Financing System Geared to Innovation-driven Development	Ministry of Science and Technology	Guo Rong, Zhang Mingxi
20	Research on Maximizing the Role of National Key Research Programs in Promoting the Supply-side Structural Reform and Practices	Ministry of Science and Technology	Li Zhe, Yang Yang
21	Research on China's STI Policy System and Its Future Direction	Ministry of Science and Technology	Zhou Huadong, Li Zhe
22	Research on Several Major Issues in Implementing the Distribution Policy Oriented to Increasing the Value of Knowledge	Ministry of Science and Technology	Peng Chunyan, Lin Xin
23	Research on STI Cooperation under "Belt and Road" to Enhance China's S&T Diplomacy	Ministry of Science and Technology	Chen Baoming, Yu Liang
24	Research on Strategy of Innovation Cooperation between China and Innovative Countries	Ministry of Science and Technology	Chen Baoming, Yang Juan

The projects fall into five research areas:

PART II

Projects and Achievements



No.	Project Name	Source	Principal(s)
25	Research on the Definition and Index System of Global S&T Power	Ministry of Science and Technology	Xuan Zhaohui
26	Tracking and Evaluation of Implementation Results of Several Major Innovation Policies	Ministry of Science and Technology	Xue Wei
27	Research on the Strategic Layout and Construction Roadmap of STI Centers with Chinese Characteristics	Ministry of Science and Technology	Wang Shuhua, Wang Weinan
28	Research on Major Measures and Implementation Roadmap for Building a Global S&T Power	Ministry of Science and Technology	Ding Minglei
29	Research on Major Strategic Issues of Safeguarding Grain Security and Food Quality and Safety with STI	Ministry of Science and Technology	Chen Shibo
30	Research on Dynamic Monitoring and Tracking of Innovation-driven Development Nationwide and Roadmap of Typical Regions	Ministry of Science and Technology	Long Kaiyuan
31	Research on Key Issues of Increasing Autonomy of Universities and Research Institutes	Ministry of Science and Technology	Zhang Wenxia
32	Research on Key Issues of Promoting the Sharing Economy with Mass Innovation and Entrepreneurship	Ministry of Science and Technology	Zhao Yandong, Lu Yangxu
33	Progress Monitoring of National STI Development during the 13 th Five-year Plan Period in Key Indicators	Ministry of Science and Technology	Zhu Yingchun
34	Research on Income Tax Policy for Promotion of Transformation of Research Achievements	Ministry of Science and Technology	Wei Shijie, Xue Wei
35	Pilot of National Innovation Demonstration Zone: Policy Practice and Demand	Ministry of Science and Technology	Xue Wei, Zhang Junfang
36	Research on Several Major Issues in Deepening the S&T System Reform	Ministry of Science and Technology	Shao Xueqing, Li Yan
37	Design of Operating Model of Financing Risk Compensation Fund for the Cultural Industry and Method of Fiscal Support	Ministry of Culture	Zhang Mingxi
38	Research on Consistency of China's STI Policy in the Context of Adjustment of International Economic and Trade Rules	China Association for Science and Technology	Huang Ning
39	Research on Impact of Global S&T Development in Recent Two Years on China's National Security	China Information Technology Security Evaluation Center	Xu Ye
40	Research on Enterprise-based Technological Innovation Roadmap and Policy	China Academy of Machinery Science and Technology	Zhang Chidong
41	Research on China's Basic Research Personnel by Discipline — A Survey of NSFC-funded Research Projects and Their Implementation Entities	National Natural Science Foundation of China	Shi Changhui
42	Summarization of International Experience in Poverty Reduction Based on Integration of Poverty Relief and Social Security System	International Poverty Reduction Center in China (IPRCC)	Xu Zhuqing
43	Research on Guangzhou's Effort to Build an International STI Hub	Science and Technology Daily	Zhang Mingxi
44	Survey and Research on Structure of China's Basic Research Force	Bureau of Academic Divisions of the Chinese Academy of Sciences	Zhao Yandong
45	Strategic Research on National Sustainable Development Experimental Zone Development and National Sustainable Development Innovation Demonstration Zone Creation	Administrative Center for China's Agenda 21	Guo Rong
46	Survey and Tracking of Key STI Events	China Petroleum Planning and Engineering Institute	Zhang Chidong
47	Development Plan of Xiamen Zone of Fujian-Xiamen-Quanzhou National Innovation Demonstration Zone (2016-2025)	Xiamen Municipal Bureau of Science and Technology	Yu Liang, Chen Baoming

No.	Project Name	Source	Principal(s)
48	Research on Innovation and Entrepreneurship Landscape and Innovation-Driven Development in Sichuan	Sichuan Provincial Center for Science and Technology for Development	Long Kaiyuan, Wang Shuhua
49	Research on Research Talent Incentivization Based on the Improvement of Sense of Gain	Sichuan Provincial Center for Science and Technology for Development	Shi Changhui, Zhao Yandong
50	Research on Structural Tax Reduction Policy Mechanism and System for Implementation of the Innovation-driven Development Strategy	China Postdoctoral Science Foundation	Jiang Yanfeng
51	Research on Construction of Technological Innovation System for Key Industries in Shanghai	Shanghai Municipal Science and Technology Commission	Liu Feng
52	Research on Fintech Development in Chengdu	Chengdu Municipal Center for Productivity Promotion	Zhang Mingxi
53	Research on Formulation of Development Plan of Boyang Lake National Innovation Demonstration Zone	Jiangxi Provincial Science and Technology Commission	Guo Rong, Zhang Mingxi
54	Nanjing Jiangbei New Area STI Development Plan	Administrative Commission of Nanjing Jiangbei New Area	Wang Shuhua, Chen Shibo
55	Research on Fintech Development Strategy of Beijing	Beijing Planning Office of Philosophy and Social Science	Zhang Mingxi
56	Research on In-depth Development of China (Mianyang) Science City Based on Military-Civilian S&T Integration	Southwest University of Science and Technology	Li Zhe, Zhang Chidong
57	Research on Issues Relating to Beijing's Alignment with Central S&T Resources	Beijing Research Center for Science of Science	Wei Dongyuan
58	Research on Measures to Promote Beijing's High-Tech Industries	Beijing Research Center for Science of Science	Xu Ye
59	Research on Implementation Plan of Harbin Innovation-oriented City Building	Harbin Institute for Science and Technology Information	Chen Baoming
60	Research on Development Strategy of Beijing's Leading Industries in Transition	Beijing Municipal Science and Technology Commission	Wang Ge
61	Research on Building an Internationally Competitive Modern Industrial and Technological System in Beijing	Beijing Municipal Science and Technology Commission	Chen Zhi
62	Research on Construction and Operating Model of National Research Centers Geared to Future-oriented Strategic Needs	Beijing Municipal Science and Technology Commission	Peng Chunyan
63	Research on Beijing's Roadmap to Leading Innovation by Building First-mover Advantages	Beijing Municipal Science and Technology Commission	Lin Xin
64	Tracking of Frontier Research in Key Areas and Forecasting	Beijing Municipal Science and Technology Commission	Yuan Like
65	Beijing's Innovation-driven Development Model in the Context of the "Digital Economy"	Beijing Municipal Science and Technology Commission	Li Xiuquan
66	Conceptual Plan of Wuhu Longhu Eco Innovation City	Sanshan District Government, Wuhu	Wang Ge
67	Research on Strategy of Building Innovative Sichuan through Increased R&D Spending	Sichuan Provincial Center for Science and Technology for Development	Chen Yu
68	Research on Construction Plan of Qingdao National Marine Science Center	Qingdao Institute for Science and Technology Information	Long Kaiyuan
69	Comparative Study on International Collaboration Patterns of National Laboratories	Development Research Center of Shanghai Municipal People's Government	Bi Liangliang
70	Research on Planning of Special Forums and Thematic Forums of 2017 Pujiang Innovation Forum	Shanghai Municipal Center for Pujiang Innovation Forum	Bi Liangliang
71	S&T and Finance Policy Research for Development of Key S&T Areas	Beijing Municipal Science and Technology Commission	Zhang Mingxi
72	Research on Construction of STI Base with Changsha-Zhuzhou-Xiangtan National Innovation Demonstration Zone at Its Core	Hunan Provincial Department of Science and Technology	Long Kaiyuan
73	Strategic Research on Advancing Innovation-Driven Development of Binhai New Area in a New Stage of Development	Science and Technology Commission of Tianjin Binhai New Area	Chen Baoming
74	Formulation of Industrial Development Plan of Jiangxi Shangrao High-Tech Zone	Guangfeng Economic Development Zone Investment and Development Co., Ltd.	Wang Shuhua, Chen Shibo
75	Research on STI Development Plan of Changchun New Area	Science, Technology and Innovation Commission of Changchun New Area	Zhang Mingxi
76	Practices of Responsible Research and Innovation	European Union	Zhao Yandong

2.2 Research Reports and Publications



01 Internal Reference

In 2017, CASTED wrote a total of 27 think tank reports, think tank views and think tank updates and submitted them to the Publicity Department of the CPC Central Committee. It submitted 64 replies on leader instructions and 90 strategic research briefings, with some research results being submitted to the CPC Central Committee through channels such as MOST Special Report and MOST Research Report.



Think Tank Reports, Views and Updates	27 issues
Strategic Research Reference	90 issues
Research Report	21 issues
Science and Technology Policy Reference	23 issues
Industrial Innovation Tracker	50 issues
China Science and Technology Finance	12 issues
Regional Innovation Tracker	1 issues

02 Books

In 2017, CASTED published 23 books. In addition to more than ten annual reports including *National Innovation*

Index Report 2016-2017 (Chinese and English), *China Regional STI Assessment Report 2016-2017* and *Venture Capital Development in China 2017*, CASTED continued to expand its influence and reputation in its focused areas of research and completed works including *Subject Analysis and Mechanism Research of Rural S&T Entrepreneurship*, *From Bold Absorption to Innovation-Driven: Evolution of China's S&T Policy*, and *Enterprise Innovation Policy System and Use Guide*.

03 Papers

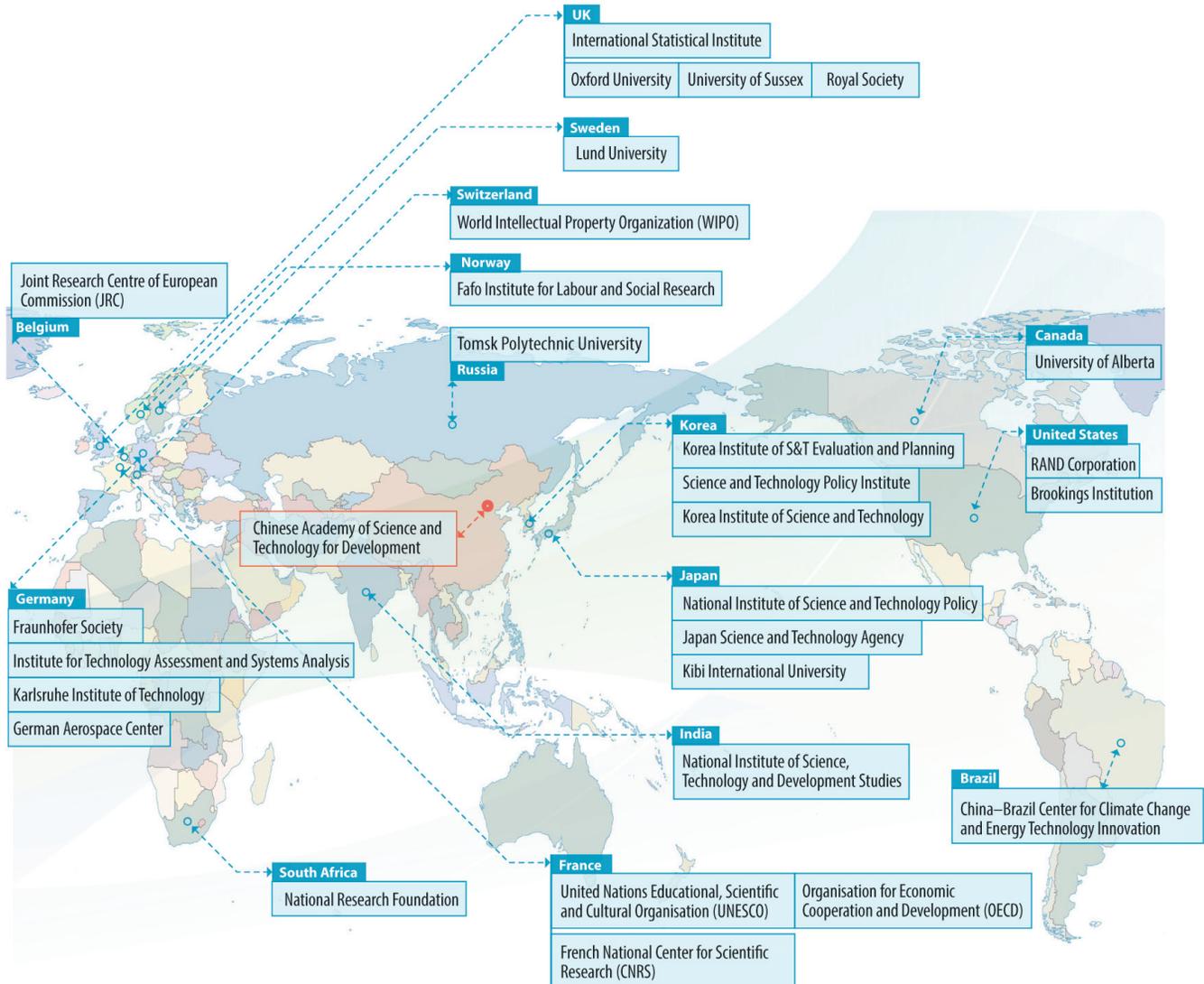
In 2017, CASTED published 233 papers, including 165 in academic journals and 58 at domestic and international academic conferences, including *Innovation as the Primary Force Driving Development: Studying and Implementing Xi Jinping's "Innovation-*

driven Development" Concept and Thoughts on Science, Technology and Innovation, Research on Income Gap of Chinese Researchers, Policy and Measures to Support Women's Development in Research: International Experience and China's Current Situation, Characteristics and Situation Analysis of China's Venture Capital Development, China's Innovation Capacity Seen Through Major International Assessment Reports, Next-Generation Artificial Intelligence: New Force Driving World Development, Chinese and US S&T Innovation Policies and Their Effects on Economic Growth Potentials, and Gender Differences in Publication Productivity among Academic Scientists and Engineers in the U.S. and China: Similarities and Differences.

PART III

Cooperation and Exchange

Our International Cooperation Footprint





Opening of the 6th international training workshop of CISTRAT



CISTRAT under UNESCO's evaluation



CISTRAT Annual and Self-Assessment Reports

The training workshop fulfilled the purpose of foreign aid by introducing China's experience in S&T development plan research and formulation to trainees from developing countries. The foreign trainees consistently stated that China's experience and practices in STI policy research shed valuable light on their countries. The workshop played a positive role in increasing China's international influence and soft power in S&T strategy and system.

The year 2017 marked the fifth anniversary of the International Research and Training Centre for Science and Technology Strategy (CISTRAT) under the Auspices of UNESCO.

● **In April** CISTRAT passed UNESCO's interim evaluation which involved extensive contents including field visit, employee interview, questionnaire survey, internal report, external assessment, multilateral workshop, and summarization. The evaluation panel spoke high of the research and training activities conducted by CISTRAT over the past six years.

● **From October 22 to November 10** CISTRAT held the 6th international training workshop in Beijing and Guangzhou which, under the theme of "Research and method on STI Policies of 'Belt and Road' Countries", enrolled 14 foreign trainees from the S&T management agencies or research institutes of eight developing countries including Brazil, Indonesia, Mongolia, Nigeria, Pakistan, Philippines, Sudan and Uzbekistan, and eight Chinese trainees from Hubei, Jiangxi, Shanghai and Sichuan.

3.1 CISTRAT Actively Advancing Its Mission

3.2 Supporting Important Diplomatic Events

- **In April** CASTED assisted the Ministry of Science and Technology in organizing the 8th Clean Energy Ministerial;
- **In June** CASTED participated in the organization of the Sino-German Innovation Conference, where Chinese Premier Li Keqiang gave the speech “China and Germany: Building a Golden Partnership on Innovation”;
- **In September** CASTED co-organized with Brookings Institution the China-U.S. Innovation-Driven Development Forum as a side-event of the Inaugural U.S.-China Social and Cultural Dialogue in Washington, where Vice Premier Liu Yandong gave a keynote speech;
- **In December** CASTED co-organized with Royal Society the China-UK Strategic Forum on STI Cooperation in London, where Vice Premier Liu Yandong gave a keynote speech. CASTED also co-organized the “China-UK Innovation-Driven Development Forum” with organizations such as Oxford University.



China-U.S. Innovation-Driven Development Forum



8th Clean Energy Ministerial



China-UK Innovation-Driven Development Forum

CASTED and OECD conducted a joint research and completed the report *Overview of Inclusive Innovation Policies in the People's Republic of China*, which was published as part of OECD's “Innovation for Inclusive Growth” project; CASTED completed the translation of *Frascati Manual* and *Handbook on Deriving Capital Measures of Intellectual Property Products*;

CASTED conducted a research project named “Research on Increasing Social Participation in Disaster Response in China” with Ford Foundation of US;

CASTED conducted a research project named “Post Disaster Needs Assessment” with UNDP;





CASTED signing an MoU for Cooperation with Tomsk Polytechnic University of Russia

3.3

Serving as a Cooperation Platform and Channel

CASTED gave full scope to the role of seven international cooperation platforms on innovation policy, including EU-China Innovation Cooperation Dialogue, Liaison Office of China-OECD STI Cooperation and China-Japan-Korea STI Policy Research Cooperation Platform.



2017 International Symposium of S&T Think Tanks



2017 International Symposium on Sino-German Innovation Policy Platform

- **In January** CASTED was designated by the International Liaison Department of the Central Committee of the CPC as a council member of Chinese Council for BRICS Think Tank Cooperation and attended the council meeting;
- **In June:**
 - CASTED hosted the 2017 International Symposium on Sino-German Innovation Policy Platform in Hangzhou;
 - CASTED co-organized an innovation policy symposium with European Commission Joint Research

- Centre (JRC) in Beijing;
- CASTED co-organized the 2017 International Symposium of S&T Think Tanks with Shanghai Institute for Science of Science.
- **In October** CASTED hosted the 12th China-Japan-Korea STI Policy Conference in Hangzhou;
- **In December** CASTED signed an MoU for cooperation with Tomsk Polytechnic University of Russia to jointly build a "Belt and Road" Network of Strategic Research on Science, Technology and Innovation.

CASTED conducted an international comparative research on technology transfer with World Intellectual Property Organization (WIPO) and co-organized with WIPO an international symposium on technology transfer policy and practices in Maastricht, the Netherlands;

CASTED undertook the Horizon 2020 project, "EU-China Innovation Platform on Sustainable Urbanization", with partners including Chinese Academy of Urban Planning and Design;

CASTED undertook the Horizon 2020 project, "Practices of Responsible Research and Innovation", with Karlsruhe Institute of Technology of Germany;

CASTED conducted a research project named "Survey of Post-Disaster Recovery and Development on 10th Anniversary of Wenchuan Earthquake" with funding from the Foreign Ministry of Norway;

CASTED carried out cooperation and exchanges in different forms and ways with many internationally

known institutions and universities including European Union Joint Research Centre, RAND Corporation of US, China-Brazil Center for Climate Change and Energy Technology Innovation, Fafo Institute for Labour and Social Research of Norway, and International Institute for Management Development of Lausanne, Switzerland.

CASTED researchers gave more than ten speeches at international academic conferences, published more than 30 papers in foreign languages and invited foreign experts to more than 30 academic symposiums held by CASTED.

3.4

Conducting Collaborative Research and Academic Exchange

PART IV

Publicity and Influence

4.1

Giving Interviews

CASTED President Hu Zhijian, serving as a chief expert, was frequently interviewed by leading media including CCTV and delivered keynote speeches at important domestic and international academic events.

CASTED researchers were interviewed by traditional media and online media including CCTV, Xinhua News Agency and National Business Daily on current topics.

CASTED researchers delivered reports to international conferences including Pujiang Innovation Forum, China-Germany Forum on Innovation, Technology and Innovation, and China-UK Innovation and Development Forum and U.S.-China High Level Consultation on People-to-People Exchange, which expanded both domestic and international influence of CASTED's research achievements.



CASTED President Hu Zhijian interviewed by CCTV news program *Focus Report*

4.2

Holding Press Conferences

4.3

Publishing in the Media

CASTED held press conferences in Beijing for the launch of *National Innovation Index Report 2016-2017*, *China Regional STI Assessment Report 2016-2017* and *China Regional Innovation Capacity Monitoring Report 2016-2017*.

CASTED held press conferences in Shanghai for the launch of *National Innovation Index Report 2016-2017* (English) and *Annual Report on the Ecosystem of Science and Technology Finance in China 2017*.

CASTED held a press conference in Chengdu for the launch of *Venture Capital Development in China 2017*.

CASTED published reports including *National Innovation Index Report 2016-2017* and *China Regional Innovation Capacity Monitoring Report 2016-2017*, which were covered by media including CCTV programs *Xinwen Lianbo* and *Live News*, *Xinhua News Agency*, *China News Service*, and *People's Daily*.

CASTED held two large-scale symposiums, namely "Forum on Science and Technology in China: Innovation-Driven Development and Supply-side Structural Reform" and "Thorough Military-Civilian Integration and Comprehensive Innovation Reform".



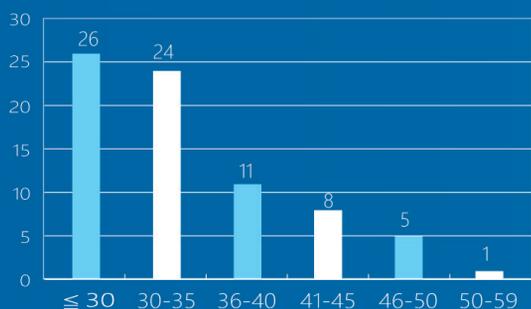
Launching of the English edition of *National Innovation Index Report*



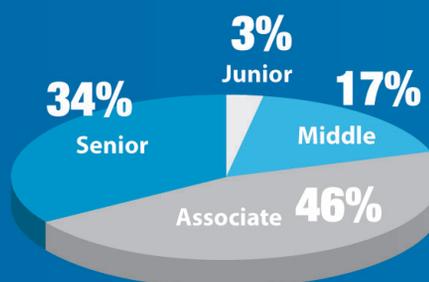
China Regional Innovation Capacity Monitoring Report being covered by *Xinwen Lianbo*

5.1 Team

As of the end of 2017, CASTED had 90 employees, including 75 researchers — among them 71 with a master’s degree or above (53 with a doctoral degree), 59 with a senior professional technical title, 16 resident postdoctoral research fellows, 1 national-level candidate for the “National Hundred, Thousand and Ten Thousand Talent Project”, and 7 recipients of a special allowance from the State Council.



CASTED researchers by age group



CASTED researchers by professional title

5.2 Culture

▶ Youth activities

CASTED participated in the “May 4” reading seminar, where participants shared their reflections on *Xi Jinping: The Governance of China*. CASTED donated books to primary schools in poor villages in Mianyang, Sichuan province, as part of the “Taking Root in Grassroots” campaign. CASTED organized approximately 50 academic lectures, encouraging young people to explore and innovate boldly.

▶ Trade union activities

Trade union activities included “Women’s Day Celebration: Essay Competition amidst Spring Scenery”, “Together for Children’s Day”, and autumn mountain climbing.

▶ Cultural and sports activities

Comedy skit *Love of Our Times* was performed at the Ministry of Science and Technology Spring Festival Greeting Gala. Sports activities included table tennis, basketball and tennis.

▶ “Reading, Study and Research” activities

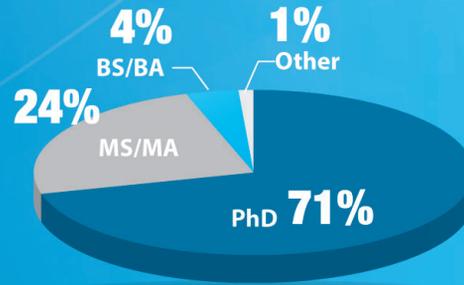
New events were initiated, such as “All Talk” and “Youth Forum on Open Thinking”.

Team and Culture

In 2017, the postdoctoral research center of CASTED had 16 postdoctoral candidates and was approved by the National Administrative Committee of Postdoctoral Researchers to enroll postdoctoral research fellows independently.

In 2017, CASTED strengthened its visiting scholar system and received a total of 4 international visiting scholars and 8 domestic visiting scholars with a more diversified research force.

Leveraging channels including Chinese embassies and consulates and international organizations to train high-end international research talents, seven CASTED researchers visited these organizations to engage in S&T diplomacy and innovation policy research.



CASTED researchers by education



Launching of the lecture series named "Expert Talks"



Comedy skit "Love of Our Times" performed at the Ministry of Science and Technology Spring Festival Greeting Gala



Together for Children's Day

Culture



Women's Day Celebration: Essay Competition amidst Spring Scenery



Participation in "May 4" reading seminar organized by Ministry of Science and Technology

MILESTONES 2017

January 11

The “Inauguration Meeting of Chinese Council for BRICS Think Tank Cooperation & Wanshou Forum”, sponsored by the International Liaison Department of the Central Committee of the CPC, took place in Beijing. At the meeting, Hu Zhijian, representing CASTED, was elected as a member of the council.



March 31

CASTED held an STI policy symposium, attended by experts from entities including Tsinghua University, Development Research Center (DRC) of the State Council, Chinese Academy of Sciences and University of Sussex of UK.



April 17

CASTED held the High-Level Advisory Meeting on China-UK STI Cooperation Strategy, attended by experts including Academician Rao Zihe, vice chairman of CPPCC Tianjin Municipal Committee, and Xu Jie, deputy inspector of International Cooperation Department of Ministry of Science and Technology.

February 14

“Expert Talk”, part of the “Reading, Study and Research” program, was officially launched, where CASTED Vice President Wu Yishan gave a lecture on “Scientific Knowledge and S&T Strategy Research”.



February 16

EU delegation led by Patrick Child, Deputy Director-General, Directorate-General for Research & Innovation, and Laurent Bochereau, Minister Counsellor of the Delegation of the European Union to China, visited CASTED.



April 6

CASTED organized the Chinese Expert Group Meeting of China-Germany Innovation Policy Platform, attended by Chinese experts from entities including Chinese Academy of Sciences, Tsinghua University, Tongji University and Zhejiang University of Technology.

April

CISTRAT, a UNESCO Category 2 center, received UNESCO’s interim evaluation.



April 25

CASTED held the China-Sweden STI Policy Symposium, attended by CASTED president Hu Zhijian; CASTED vice president Wu Yishan; Zhang Xu, deputy director-general of Department of Innovation and Development of Ministry of Science and Technology; Mats Benner, professor at KTH Royal Institute of Technology; Andreas Göthenberg, Executive Director of The Swedish Foundation for International Cooperation in Research and Higher Education; and Sylvia Schwaag Serger, Executive Director for International Strategy and Networks at the Swedish Agency for Innovation Systems.



May 15

A Thai delegation led by Vice Minister of science and technology Pornchai Tarkulwanont visited CASTED. The two sides held a meeting on China-Thailand science and technology cooperation.

June 2

The Third China-EU Innovation Cooperation Dialogue was held in Brussels as a side-event of the 19th China-EU Summit. Lin Xin, Party Secretary of CASTED, attended the meeting and delivered a report.



June 6

Jan Wilhelm Grythe, Counselor of Development at Royal Norwegian Embassy in China, visited CASTED and made a collaborative research proposal.

June

CASTED co-organized the China-Germany Forum on Innovation in Berlin, where Premier Li Keqiang delivered a speech entitled "China and Germany: Building a Golden Partnership on Innovation".



June 15-16

The 2017 International Symposium on Sino-German Innovation Policy Platform, sponsored by CASTED and co-organized by Zhejiang University of Technology and China Institute for Small and Medium Enterprises, took place in Hangzhou.



June 16-17

CASTED co-sponsored with Shanghai Institute for Science of Science (SISS) the 2017 International Symposium of S&T Think Tanks under the theme of "Globalization of Innovation and Renovation of Urban Functions", as a side-event of Pujiang Innovation Forum in Shanghai.



June 26

CASTED held an innovation policy symposium with the European Union Joint Research Centre (JRC) in Beijing.



August

CASTED reports — *National Innovation Index Report 2016-2017*, *China Regional STI Assessment Report 2016-2017*, *China Regional Innovation Capacity Monitoring Report 2016-2017* — were featured in CCTV programs *Xinwen Lianbo* and *Live News*.



September 14-15

The 11th China Forum on Science and Technology, co-sponsored by CASTED and CISTRAT and organized by *Forum on Science and Technology in China* magazine, took place under the theme of "Innovation-driven Development and Supply-side Structural Reform".



September 22

The *Annual Report on the Ecosystem of Science and Technology Finance in China 2017*, co-prepared by CASTED, China Association for Promotion of Science & Technology and Finance and SISS was released at the 2017 Pujiang Innovation Forum, which was covered on site by media including CCTV, *Science and Technology Daily*, and *Jiefang Daily*.



September 22-25

The 2017 Pujiang Innovation Forum, co-sponsored by Ministry of Science and Technology and Shanghai Municipal People's Government and co-organized by CASTED and Shanghai Municipal Science and Technology Commission, took place under the theme "Globally Influential Center of Science, Technology and Innovation: Vision and Mission", with the country of honor being Denmark and the provinces of honor being Beijing and Anhui. CASTED organized the policy sideline forum and "Belt and Road" STI cooperation symposium.

September

CASTED co-organized with Brookings Institution the China-U.S. Innovation-Driven Development Forum as a side-event of the Inaugural U.S.-China Social and Cultural Dialogue in Washington, where Vice Premier Liu Yandong gave a keynote speech.



October 19-20

CASTED sponsored, with assistance from Zhejiang Academy of Science and Technology for Development, the 12th China-Japan-Korea STI Policy Conference in Hangzhou, where Zhou Guohui, director of Zhejiang Provincial Department of Science and Technology, delivered an address.



October

CISTRAT held its 6th International Training Workshop in Beijing and Shanghai, where it shared with 14 trainees from "Belt and Road" countries China's experience in science, technology and innovation.



November 24

Hu Zhijian, President of CASTED, was featured in an interview on China's STI strategy in CCTV program *Focus Report* feature "Science, Technology and Innovation for the New Era".

November 13-17

The 4th Cross-Straits Forum on Science and Technology, co-sponsored by K.T.Li Foundation for Development of Science and Technology and Center for Cross-Straits Exchange in Science and Technology, took place in Taipei, where CASTED president Hu Zhijian, leader of the Chinese delegation, gave a keynote speech on "Situation and Outlook of Innovation-driven Development". CASTED held a S&T policy parallel session, attended by cross-straits experts.



December 6

The Second China-UK Innovation and Development Forum, co-organized by the Technology and Management Centre for Development (TMCD) of University of Oxford, Innovate UK, China-Britain Business Council (CBBC), Institute of Sciences and Development of the Chinese Academy of Sciences (CASISD) and Chinese Academy of Science and Technology for Development (CASTED), took place in London, where CASTED president Hu Zhijian gave a keynote speech on "China's Science and Technology Policy and Future Direction of Development".



December 13

CASTED signed an MoU for cooperation with Tomsk Polytechnic University of Russia to jointly build a "Belt and Road" Network of Strategic Research on Science, Technology and Innovation.



December 19

Hu Zhijian met with a delegation led by Prof. Manzoor H. Soomro, President of ECO Science Foundation (ECOSF), and Dato Lee Yee Cheong, President of a UNESCO category 2 center named International Science, Technology and Innovation Centre for South-South Cooperation (ISTIC).



Forum on Science and Technology in China magazine

The magazine published all 12 issues for the year and completed its annual inspection, interim report, annual report and legal person change.

The magazine received steadily increasing submissions with the acceptance rate fell to 7% and its number of pages grown to 192.

The magazine held a meeting on topic selection for the magazine and the China Forum on Science and Technology in 2018.

The magazine prepared the *2017 China Science and Technology Development Report*.



China SciTechnology Business magazine

The magazine published all 12 issues for the year and completed its annual inspection, interim report, annual report and legal person change.

The magazine preliminarily established its article editing system and published three special issues on innovation-driven development, "Belt and Road", and military-civilian integration, respectively.

The magazine strengthened online and new media communication and has been included in full texts in databases including CNKI, Wanfang Data, China Maxx and VIP Information.

The magazine expanded its influence by joining Shanghai Tech-media Union (as a vice council president member) and Smart Industry Application and Innovation Union (as a council member). In addition, it has established ties with relevant public institutions under the Ministry of Science and Technology to explore cooperation possibilities.



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