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19th CIEP - Innovation, development, cooperation, and win-win

Innovation in Statistics - An analysis of China's R&D investment

Total R&D investment climbed to 2.4 trillion yuan in 2020 from 1.42 trillion yuan in 2015

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19th Conference on International Exchange of Professionals (CIEP)

——Innovation, development, cooperation, and win-win

The 19th Conference on International Exchange of Professionals (CIEP), co-sponsored by the Chinese Ministry of Science and Technology (MOST) and Shenzhen Municipal Government, was successfully held in Shenzhen on April 24 and 25. The conference was held in "online + offline" mode with the theme of "innovation, development, cooperation and win-win", including sessions of Innovation & Entrepreneurship, Summit Forum, Talent Exchange. The Conference attracted more than 1000 professional organizations from over 30 countries and regions, according to preliminary statistics, which provided an international platform for talent exchange.

Wang Zhigang, Minister of Science and Technology, noted in the opening ceremony that China's efforts to build up the strength in science and technology will facilitate openness and cooperation. Over the journey of more than 40 years of reform and opening-up, China cannot be separated from the world in achieving its innovation development, and the world also needs China for advances in science and technology. Themed on "innovation, development, cooperation and win-win", the Conference provided a platform to pool wisdom on the development of science, technology and innovation (STI). We stands ready to work with all sides to integrate into the global

network of innovation, address global challenges in a practical and effective way, attract top-notch talents, and provide "ideal habitat" for global innovators and entrepreneurs. We will accelerate efforts to build Belt and Road into an innovation road, strengthen ties for innovation exchange and cooperation, take the initiative to participate in global innovation governance with more open and practical measures, forge closed circle of friendship in STI with old and new friends in the international community, provide more STI solutions to address global challenges, enrich mankind's civilization and improve people's well-being, and work together to make new contributions to global prosperity and development.

Focusing on three topics, i.e. "Technology - protecting human health", "Innovation - driving the development of Greater Bay Area", and "Cooperation - building the future with intelligence", government officials, experts, and enterprise representatives shared experience and exchanged ideas to build consensus on low carbon, public health, and rural revitalization. According to incomplete statistics, 392 exhibition organizations with 885 projects and 322 products were presented, 695 cooperative intentions between provinces and cities and professional organizations, training institutes and overseas returnees achieved, 35,000 people attended the conference, and 216 institutions from the media at home and abroad with global accumulated reading volume of more than 10 million, 2.8 million real-time live broadcasting and new media reading volume of 78 million. The EO matchmaking system of CIEP has 505 online registration units with 534 people registered, and 1376 job vacancies posted with a pool of 117 experts. In addition, agreement on 390

cooperation projects were reached, involving over 860 million yuan. The available funding for projects amounted to nearly 1 billion yuan.

Founded in 2001, the CIEP has become a national and internationalized exhibition and negotiation occasion for the exchange of international technological innovation talents with the theme on “innovation, development, cooperation and win-win”. Research institutions, sci-tech enterprises and consultant agencies from over 40 countries and regions attend the Conference. Since its inception, it delivered more than 10,000 cooperative and exchange projects in total, providing a platform for foreign institutions, organizations, and enterprises to enter the Chinese market and seek partners in China and other countries and regions.

Innovation in Statistics - An analysis of China’s R&D investment

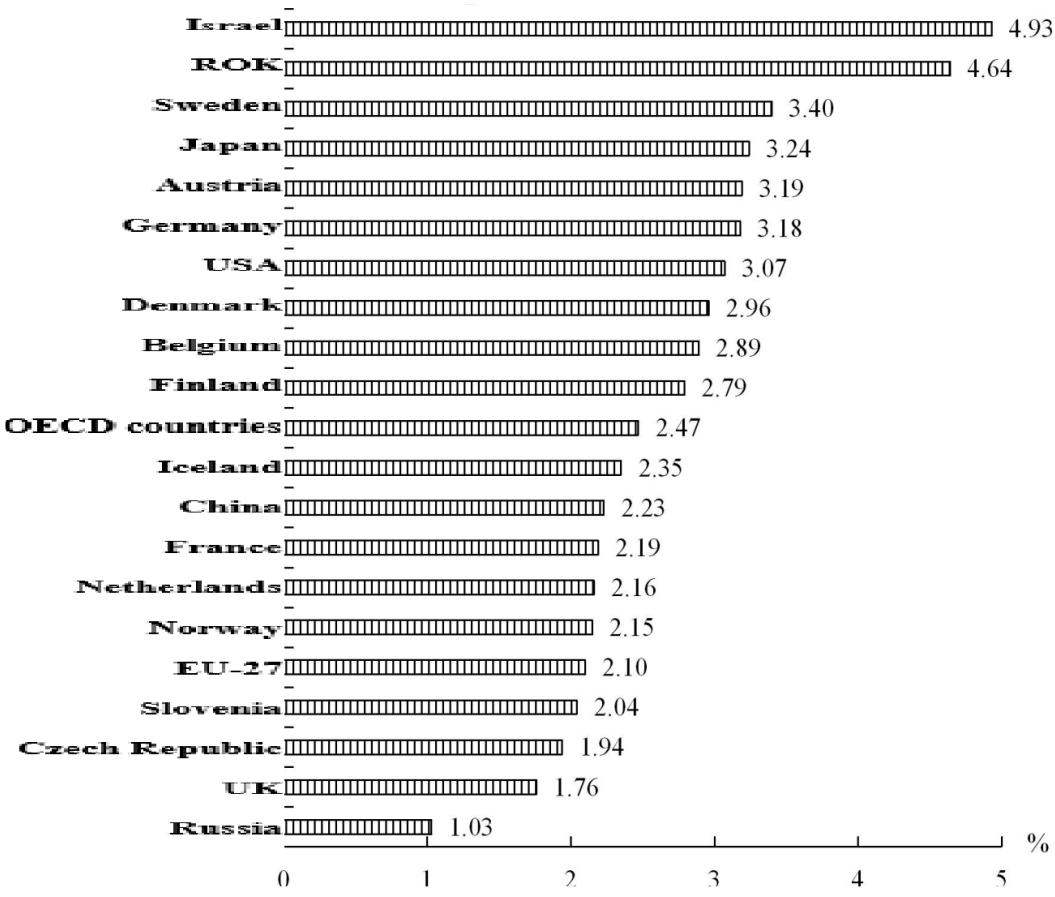
✧ R&D spending exceeding 2 trillion yuan for the first time, with a slight increase of R&D intensity

China’s total spending on research and development (R&D) in 2019 amounted to 2.21436 trillion yuan (about 320.99 billion U.S. dollars), exceeding 2 trillion yuan for the first time, an increase of 246.57 billion yuan or 12.5% over the previous year, ranking second in the world. China's R&D spending hit a record high at 2.23% of its GDP in 2019, up by 0.09 percentage points from the previous year.

China's R&D intensity surpassed the average level of 2.10% in 27 EU countries, reaching the level of moderately developed countries, but still lagged behind compared with 2.5%-3.5% of some developed countries. On the whole, China's R&D spending met the basic requirements and stage conditions of China's economic and social development.

In 2019, investment in basic research stood at 133.56 billion yuan, applied research at 249.85 billion yuan, and experimental development at 1,830.956 billion yuan, accounting for 6.0%, 11.3% and 82.7% of total spending respectively.

Characters of R&D by performing sectors can be reflected from their distribution of R&D funds. In 2019, for research institutions, 16.6% of R&D funds was used for basic research, 30.3% for applied research and 53.1% for experimental development. That ratio in higher education institutions was about 4: 5: 1. In other words, 89.1% was used for scientific research and 10.9% for experimental development. For corporate R&D funds, experimental development accounted for 96.4%, applied research 3.3% and basic research only 0.3%.



Comparison of R&D Intensity (2019)

✧ Enterprises as main source and performer of R&D funds

From 2006 to 2019, China saw an upward trend in the R&D spending of business, research institutions, and higher education institutions. In 2019, their internal R&D expenditures were 1,692.18 billion yuan, 308.08 billion yuan and 179.66 billion yuan respectively, up by 11.1%, 14.5% and 23.2% over 2018, accounting for 76.4%, 13.9% and 8.1% of R&D funds respectively.

According to composition of R&D sources, business is the main source of R&D funds in China. In 2019, China's R&D expenditure was 2,214.36 billion yuan. Among them, government spending was 53.73 billion yuan, accounting for 20.49%; corporate

spending was 1,688.72 billion yuan, accounting for 76.3%; funding from abroad was 2.39 billion yuan, accounting for 0.11%; other sources were 69.52 billion yuan, accounting for 3.14%.

China's R&D funds was performed by enterprises, research and higher education institutions, and other sectors. Government funds mainly went to some research institutions and universities that undertake national sci-tech programs. In 2019, 56.9% of government R&D funds went to research institutions, 23.11% to universities, 14.3% to enterprises and 5.7% to other departments.

R&D by sector of performance (2015-2019) Unit:%

Year	Business	Research institutions	Higher education	Others
2015	76.8	15.1	7.0	1.1
2016	77.5	14.4	6.8	1.3
2017	77.6	13.8	7.2	1.4
2018	77.4	13.7	7.4	1.5
2019	76.4	13.9	8.1	1.6

R&D by source of funds (2015-2019) Unit:%

Year	Government	Business	Funding from abroad	Others
2015	21.3	74.7	0.7	3.3
2016	20.0	76.1	0.7	3.2
2017	19.8	76.5	0.6	3.1
2018	19.1	76.5	0.4	2.8
2019	20.5	76.3	0.1	3.1

✧ Government sci-tech funding exceeding 1 trillion yuan for the first time

China's government funding for science and technology refers to direct financial support given by the central government and local governments to sci-tech activities, which is not only used to support R&D, but also for public science and other public sci-tech activities, promoting the application of sci-tech achievements and related sci-tech services.

The Chinese government has continuously increased its investment in STI, with a rapid growth of government sci-tech funding. In 2019, the government funding for science and technology totaled 1,071.74 billion yuan, accounting for 4.5% of the public finance expenditure, up by 0.2 percentage points over the previous year. Among them, expenditure under the science and technology account was 947.08 billion yuan, accounting for 88.4% of total government science and technology

funding; the expenditure under other accounts amounted to 124.66 billion yuan, accounting for 11.6% of total government science and technology funding.

Government sci-tech expenditure includes spending from the central government and local governments. In 2019, sci-tech expenditures from the central government and local governments were 417.32 billion yuan and 654.42 billion yuan, accounting for 38.9% and 61.1% respectively. The central government's funding for science and technology increased by 11.6% over the previous year, while the local governments' sci-tech funding increased by 13.2% over the previous year.

Government Science and Technology Expenditure and Its Proportion (2015-2019)

(100 million yuan)

Year	Public finance	Government sci-tech funding	Central government	Local governments	Ratio of sci-tech funding to public finance (%)
2015	175877.8	7005.8	3012.1	3993.7	3.98
2016	187755.2	7760.7	3269.3	4491.4	4.13
2017	203085.5	8383.6	3421.4	4962.1	4.13
2018	220904.1	9518.2	3738.5	5779.7	4.31
2019	238874.0	10717.4	4173.2	6544.2	4.49

(Source: Ministry of Science and Technology of China)