



CHINA'S JOURNEY IN INNOVATION

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Annotation: This article explores China's remarkable journey in innovation and the lessons it offers to the world. It highlights the key drivers behind China's success, including government support and policy initiatives, investment in research and development, innovation hubs and clusters, and industry-academia collaboration. The article also examines China's notable achievements in technological advancements, such as high-speed rail, renewable energy, e-commerce, and space exploration. Furthermore, it presents valuable lessons for other countries, including the importance of long-term vision, strategic planning, collaboration, embracing technological advancements, and focusing on sustainability. Overall, the article provides insights into China's innovation ecosystem and its potential implications for global innovation and economic growth.

Key words: Innovation, Innovation Policy, Bloomberg Innovation Index, Global Innovation Index, China, Made in China Program, 13th Five-Year Plan, 14th Five-Year Plan, "China Standards 2035", Long-term Planning, Government Support.

ПУТЬ КИТАЯ В ОБЛАСТИ ИННОВАЦИЙ

Аннотация: Данная статья рассматривает путь Китая в области инноваций. В этой статье подчеркиваются ключевые факторы успеха Китая, включая государственную поддержку и политические инициативы, инвестиции в исследования и разработки, инновационные центры и кластеры, а также сотрудничество между промышленностью и научными кругами. В статье также рассматриваются заметные достижения Китая в таких технологических достижениях, как высокоскоростная железная дорога, возобновляемые источники энергии, электронная коммерция и освоение космоса. Кроме того, статья представляет ценные уроки для других стран, в том числе важность долгосрочного видения, стратегического планирования, сотрудничества, внедрения технологических достижений и сосредоточения внимания на устойчивом развитии. В целом, статья дает представление об инновационной экосистеме Китая и ее потенциальном влиянии на глобальные инновации и экономический рост.

Ключевые слова: Инновации, инновационная политика, индекс инноваций Bloomberg, глобальный индекс инноваций, Китай, программа «Сделано в Китае», 13-я пятилетка, 14-я пятилетка, «Китайские стандарты 2035», долгосрочное планирование, государственная поддержка.



XITOYNING INNOVATSIYA SOHASIDAGI YO'LI

Annotatsiya: Ushbu maqolada Xitoyning innovatsiyalar sohasidagi ajoyib sayohati va dunyoga taqdim etayotgan saboqlari ko'rib chiqiladi. Unda Xitoy muvaffaqiyatining asosiy omillari, jumladan, davlat tomonidan qo'llab-quvvatlanishi va siyosat tashabbuslari, tadqiqot va ishlanmalarga investitsiyalar, innovatsion markazlar va klasterlar, sanoat va ilmiy doiralar o'rtasidagi hamkorlik yoritilgan. Maqolada, shuningdek, Xitoyning tezyurar temir yo'l, qayta tiklanadigan energiya, elektron tijorat va kosmik tadqiqotlar kabi texnologik taraqqiyotdagi muhim yutuqlari ko'rib chiqiladi. Bundan tashqari, u boshqa mamlakatlar uchun qimmatli saboqlar beradi, jumladan, uzoq muddatli istiqbolni ko'rish, strategik rejalashtirish, hamkorlik, texnologik yutuqlarni o'zlashtirish va barqaror rivojlanishga e'tibor berish. Umuman olganda, maqola Xitoyning innovatsion ekotizimini va uning global innovatsiyalar va iqtisodiy o'sishga potentsial ta'siri haqida tushuncha beradi.

Kalit so'zlar: Innovatsiya, Innovatsion siyosati, Bloomberg Innovatsiyalar Indeksi, Global Innovatsiyalar Indeksi, Xitoy, "Made in China" dasturi, 13- besh yillik reja, 14- besh yillik reja, "China Standards 2035", uzoq muddatli rejalashtirish, hukumat tomonidan qo'llab quvvatlash.

Following the 18th National Congress of the Communist Party of China, there has been a notable acceleration in scientific and technological revolution and industrial transformation, alongside a restructuring of the global innovation landscape. The global economic model has experienced significant changes, leading China to enter a crucial phase of transforming its development model, optimizing its economic structure, and altering its growth trajectory. Innovation is increasingly recognized as a crucial solution to development challenges. Faced with new opportunities and challenges, under the resolute leadership of the Party Central Committee led by Comrade Xi Jinping, a new development concept is being extensively implemented nationwide. The focus is on deepening the innovation development strategy, emphasizing the strengthening of national strategic scientific and technological capabilities, and promoting mass entrepreneurship and innovation. This has resulted in a rapid surge of new ideas, advancements in the emerging economy, and China's successful integration into the league of innovative nations. China's leading role in driving high-quality economic development and enhancing the well-being of its people is continuously growing.

China's innovation policy is characterized by several main features:

1. Government-led approach: The Chinese government plays a central role in the formulation and implementation of innovation policy. It provides strong financial support, sets strategic priorities, and guides the overall direction of innovation efforts.

2. Long-term planning: China's innovation policy is often based on long-term plans, such as the "Made in China 2025" initiative and the recent "China Standards 2035" plan. These plans define specific goals, objectives and strategies to stimulate innovation in key industries and technologies.

3. Strong emphasis on research and development (R&D): China is increasing its investment in R&D, both in terms of funding and infrastructure. The government



encourages collaboration between academia, industry and research institutes to support technological progress and scientific discovery.

4. Intellectual property protection: China has recognized the importance of intellectual property rights (IPR) and has taken measures to strengthen IPR protection. Reforms were implemented to improve patent legislation, ensure copyright protection, and combat intellectual property rights violations.

5. Support for emerging technologies: China's innovation policy places great emphasis on emerging technologies such as artificial intelligence (AI), biotechnology, renewable energy, and advanced manufacturing. The government provides significant funding, regulatory support and incentives to encourage the development and adoption of these technologies.

6. Cooperation and international participation: China is actively developing international cooperation in the field of innovation, both through cooperation with foreign companies and institutions, and through initiatives such as the Belt and Road Initiative. Chinese companies are encouraged to participate in global research networks, technology transfer and international standard setting processes.

7. Support for entrepreneurship and start-ups: China's innovation policy recognizes the importance of entrepreneurship and supports the growth of start-ups. Various measures are in place to develop a vibrant entrepreneurial ecosystem, including tax incentives, financial support and business incubation programs.

8. Focus on market-oriented innovation: China aims to transform from the "factory of the world" into a global innovation center. There is an increasing focus on market-oriented innovations, commercialization of research results, and development of products and services with high added value.

China's commitment to innovation has yielded amazing results about over different divisions. Especially in High-speed rail, renewable energy, e-commerce, space exploration. For high-speed rail China gloats the world's biggest high-speed rail arrange, interfacing major cities with trains that can reach speeds of over 300 km/h. The country's progressions in rail innovation have revolutionized transportation and set unused guidelines for proficiency and security. In renewable energy sector China has developed as a worldwide pioneer in renewable vitality, contributing intensely in sun oriented and wind control. In China's e-commerce advertise, overwhelmed by stages such as Alibaba's Taobao and JD.com, has seen hazardous development. The country has pioneered new business models, digital payment systems, and logistics solutions, revolutionizing the way people shop and conduct business. China has made surprising advance in space exploration, including successful manned missions, lunar exploration, and the advancement of its space station.

Currently, there are criteria for evaluating the science and technology potential of countries, the most important of which are the Global Innovation Index (GII) and the Bloomberg Innovation Index. In evaluating the innovation potential of GII countries 1- Institutions, Human capital and research, infrastructure, Market sophistication, Business sophistication 2. Practical results achieved in the implementation of innovation (Innovation



Output): - Knowledge and technology outputs and Creative outputs. Table 1 shows, Chinese results for Global Innovation Index in 2023.

1-Table. Global Innovation Index rating indicators in 2023⁶³

| Overall GII | Country | Institution | Human capital & research | Infrastructure | Market sophistication | Business sophistication | Knowledge and technology outputs | Creative outputs |
|-------------|-------------|-------------|--------------------------|----------------|-----------------------|-------------------------|----------------------------------|------------------|
| 1 | Switzerland | 2 | 6 | 4 | 7 | 5 | 1 | 1 |
| 2 | Sweden | 18 | 3 | 2 | 10 | 1 | 3 | 8 |
| 3 | US | 16 | 12 | 25 | 1 | 2 | 2 | 12 |
| 4 | UK | 24 | 8 | 6 | 3 | 13 | 7 | 2 |
| 5 | Singapore | 1 | 2 | 8 | 6 | 3 | 10 | 18 |
| 12 | China | 43 | 22 | 27 | 13 | 20 | 6 | 14 |

In Innovation inputs China showed best results in number of researchers (it went up by 7.72 % from the year prior), gross expenditure on R&D, % GDP (it went up by 2.41 % from the year prior), QS university ranking, top 3, ICT access and domestic industry diversification (up by 3.82 % from the previous year).

In Innovation outputs China showed best results in number of patents origin and was equal to 1,426.64 (went up by 6.085 % from the year prior), citable documents H-index (it went up by 10.7. % from the year prior), high-tech exports was equal to 942 billion USD (went up by 24.4 % from the year prior) and cultural and creative services exports was equal to 18 billion USD (up by 25.87% from the previous year).

It can be seen from the high results that China is working on the basis of strategies and measures aimed at developing high-tech industry and turning the country into a powerful industry with high competitiveness. Also, the development of the field of high technologies, increasing the technological and innovative potential of the manufacturing industry is becoming a decisive factor.

At the 5th session of the National People's Congress held in 2021, programs on the 14th five-year (2021-2025) "Socio-economic development" plan and long-term plans until 2035 were adopted, among which one of the main goals is to make China to become a world industrial power. To achieve this goal, the Chinese government plans to continue to modernize the manufacturing industry and focus on the development of high-tech industries based on smart technologies. Currently, China's main task is to lead the global market in aerospace, energy and medical equipment, robotics, new generation marine engineering equipment, innovative technologies for railway transport, electric vehicles using alternative energy sources, agricultural machinery, and other fields.

In order to realize the set goals, China has four programs in mind: "intelligent manufacturing", "strengthening the industrial base", "green manufacturing" and "innovation in the field of high-tech equipment". Within the framework of these projects, international and national scientific and technical centers are being established in the sectors listed above.

⁶³ <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2023-section1-en-gii-2023-results-global-innovation-index-2023.pdf>



The "Smart" production development program adopted in 2021 is based on "Internet of things", "Big data", "Cyber-physical systems", technological and production equipment. According to this program, by 2025, 70 percent of large industrial enterprises in China are planned to be integrated into the information network and transferred to a digital platform. It is planned to create more than 500 advanced demonstration factories using smart production technology.

China aims to develop its next-generation technologies by establishing scientific and technical centers and leading enterprises in the international market in the field of innovation. In this regard, China is actively trying to develop science and technology. According to China's official statistics, the amount spent on scientific research and development (R&D) in 2021 will reach 2.786 trillion yuan, an increase of 14.2% compared to last year. At the same time, the amount spent on fundamental research in 2021 will reach 1.696 trillion yuan.

Considering the country's current needs, the Chinese Academy of Sciences launched three projects in 2018: supercomputer system, cyber security, and underwater vehicles. Since 2019, the development of five special projects has begun, including the design and independent production of integrated circuits, software development, and the study of electromagnetic measurements. According to the "Made in China 2025" program, the supply of integrated microcircuits to the country should reach 40% by 2020. In practice, this indicator was more than fulfilled, it was 47.87 percent in 2020, and it is planned to reach 70 percent by 2025.

According to the 14th "5-Year Socio-Economic Development Plan" (2021-2025) and "Long-Term Plan to 2035" adopted at the 5th Plenum of the Central Committee of the Communist Party of China, China should become one of the world leaders in the field of high technology. To achieve this goal, 1.4 trillion will be spent on the development of new technologies until 2025. It is planned to allocate funds in the amount of US dollars, and by 2030, the Chinese government plans to invest an average of 180 billion US dollars annually for the development of information technology.

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