Sino-German Cooperation on Industrie 4.0

Science and R&D in the Government Report and the 14th Five-Year Plan

Policy Update | March 2021

The closing meeting of the fourth session of the 14th National People's Congress called the end of the "two sessions" - the Chinese People's Political Consultative Conference (CPPCC) and the National People's Congress (NPC) in this year. During this year's meeting, the main topic was the upcoming 14th Five Year Plan (FYP)[1] from 2021-2025. A strong focus of the FYP has been put on scientific research and development. Innovation development is emphasized in the second chapter right after an overview plan the first chapter. This policy update provides a collection of key information on science, research and development from the FYP as well as the government work report presented at the NPC[2].

Innovation and research – national core competence

According to the 2021 government work report, innovation, research and development (R&D) will still stay at the centre of the whole modernisation strategy for the country:

Basic research - the highlights of this year

According to Minister Wang Zhigang from the Ministry of Science and Technology (MOST), the central government's budget for R&D has increased by 70% during the last five years. Overall, the investment for basic research has doubledin the coming years and the position of basic research will be even more important.

- The share of basic research in the overall investment on R&D shall rise from 6% to more than 8% in next five years.
- In 2021 the central-government plans to increase the expenditures on basic research by 10.6%
- A ten-year action plan on basic research (2021-2030) will be established in 2021.
- Minister Wang Zhigang has been quoted with the words: "Basic research is the source of the whole technology innovation". The emphasis of basic research shows China's determination of realising technological self-sufficiency.

Foster international cooperation

- Actively design and lead international "big science plans and projects"[3], that aim to solve major global challenges as well as explore the frontiers of knowledge together with other countries.

[1] The full name of the 14th Five-Year Plan is "14th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives Through 2035"

[2] This policy update references on the following news and documents:
14th Five Year Plan (CHN): https://new.qq.com/omn/20210313/20210313A04AA900.html
Government work report (CHN): https://baijiahao.baidu.com/s?id=1694036292748112044&wfr=spider&for=pc
Interview with Minister Wang Zhijun (CHN): https://baijiahao.baidu.com/s?id=1693659379012982291&wfr=spider&for=
13th Five Year Plan on Technology and Innovation (CHN): http://www.gov.cn/zhengce/content/2016-08/08/content_5098072.htm
Nature.com: China's five-year plan focuses on scientific self-reliance (ENG): https://www.nature.com/articles/d41586-021-00638-3

[3] "Big science plans" refers to projects with high investment budget, that reach across multiple disciplines, include international cooperation and innovation as well as a grand goal.

- Start science and technology cooperation projects, establish a global-oriented research fund, promote scientist exchange programs.
- Support to establish international science organisations within the Chinese territory, support foreign scientists working in Chinese academic institutions.

Measures promoting R&D in the next five years

- Average **annual growth rate for overall expenditures on R&D** should be more than 7%.
- Establish **national labs** to strengthen technology power in major innovation fields, including quantum information, networking and communication, artificial intelligence, photons and micro-nano electrons.
- Boost a **"Science and Technology Innovation 2030 - Major Project"** in 2021. The topic was originally raised by the State Council in the *13th Five-year Plan of National Technology and Innovation* with specific areas including **artificial intelligence, quantum information, semi-conductors, neurosciences**, genetic research and biotechnology, healthcare, deep-space, deep-sea and polar exploration, basic materials, key components and other critical core technology.
- Strengthen the demonstration role of national innovation zones and support designated areas to build **international and regional technology innovation centres.**
    - In specific, support Beijing, Shanghai and the Guangdong-Hong Kong-Macao Greater Bay Area to build international technology innovation centres.
    - Support Huairou district (Beijing), Zhangjiang district (Shanghai), Greater Bay Area and Hefei (Anhui) to build comprehensive national science centres.

Encourage innovations among companies

- Extend the **75% additional pre-tax deduction** of R&D expenses and **increase the additional pre-tax deduction rate of manufacturing enterprises to 100%**.
- Support leading enterprises to cooperate with universities, research institutions and other companies in the industry, jointly construct national industrial innovation centres, undertake major research projects.
- **Full refund** of incremental VAT credits balance to advanced manufacturing enterprises on a monthly basis, and raise the proportion of loans to the manufacturing sector.

We hope you enjoyed reading this Policy Update and welcome your comments and suggestions. Your feedback to info@i40-china.org is highly appreciated. More policy products can be found in our Download Area, more information about the Sino-German Industrie 4.0 Cooperation is on our Project Website.