

## <<科技革命与中国的现代化>>

### 图书基本信息

书名：<<科技革命与中国的现代化>>

13位ISBN编号：9787030253859

10位ISBN编号：703025385X

出版时间：2009-9

出版时间：科学出版社

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页数：138

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### 前言

China's modernization is viewed as a transformative revolution in the human history of modernization. As such, the Chinese Academy of Sciences (CAS) decided to give higher priority to the research on the science and technology (S&T) roadmap for priority areas in China's modernization process. What is the purpose? And why is it? Is it a must? I think those are substantial and significant questions to start things forward. Significance of the Research on China's S&T Roadmap to 2050 We are aware that the National Mid- and Long-term S&T Plan to 2020 has already been formed after two years' hard work by a panel of over 2000 experts and scholars brought together from all over China, chaired by Premier Wen Jiabao. This clearly shows that China has already had its S&T blueprint to 2020. Then, why did CAS conduct this research on China's S&T roadmap to 2050?

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### 内容概要

This general report, sponsored by the Chinese Academy of Sciences, presents a panoramic scenario for China's modernization drive to 2050. It analyzes the evolution and laws governing the development of science and technology, describes the decisive impact of science and technology on the modernization process, predicts that the world is on the eve of an impending S&T revolution, and calls for China to be fully prepared for this new round of S&T advancement. Based on its detailed study of the demands on S&T innovation in China's modernization, it draws a framework for eight basic and strategic systems of socio-economic development with the support of science and technology, works out China's S&T roadmaps for the relevant eight basic and strategic systems in line with China's reality, further details S&T initiatives of strategic importance to China's modernization, and provides S&T decision-makers with comprehensive consultations for the development of S&T innovation consistent with China's reality. Supported by illustrations and tables of data, the general report provides researchers, government officials and even entrepreneurs with guidance concerning research directions, the planning process, and investment. It also serves as a preamble for the eighteen detailed field-specific reports of the committees assigned to craft roadmaps for each sphere of development.

Founded in 1949, the Chinese Academy of Sciences is the nation's highest academic institution in the natural sciences. Its major responsibilities are to conduct research in basic and technological sciences, to undertake nationwide integrated surveys on natural resources and ecological environment, to provide the country with scientific data and consultations for government's decision-makings, to undertake government-assigned projects with regard to key S&T problems in the process of socio-economic development, to initiate personnel training, and to promote China's high-tech enterprises through its active engagement in these areas.

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### 章节摘录

插图：In the meantime, we must be fully aware that China's innovation capacity and organizational mechanism are by far unable to address the challenge of a S&T revolution and the demand of modernization, as evidenced in the followings: The first is China's deficiency in science innovation. In some research areas likely to make transformative breakthroughs, China mainly follows the tracks of the advanced level. Hardly any landmark science problem and theory have been initiated or discovered by the Chinese. The second is that China is still under other powers' control in core technology. China still relies heavily on importing foreign technologies in many of its key industries. And it is slow in developing some leading strategic high technologies, which directly hinders the country's upgrading in industrial structure, the development of emerging industries and national security as well. The third is that the mode of developing science and technology with Chinese characteristics has not yet been taken shape, as science and technology have not been fully employed in the economic development. The existing macro management system in science and technology fundamentally holds back the initiatives of the institutions into full play within the national innovation system. The government guidance is sometimes alienated into "institutional interests", making it difficult to mobilize integrated resources to accomplish large undertakings. Market orientation is usually alienated into competition in disorder, instead of orderly competition and high-efficient cooperation. China is still deficient in its ability to make precise prediction of world S&T development and thus to work out foresighted plans to address the nation's long-term development. A matured set of policies and rules to effectively compete for and retain creative talents has not yet been formed. The vigor and autonomy of innovation team and the confidence and initiatives of creative talents are in need of further promotion.

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### 编辑推荐

《Science & Technology in China:A Roadmap to 2050》：Strategic General Report of the Chinese Academy of Sciencs.

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