

CHINA'S 2024 TECH INNOVATION: BOOSTING NEW-QUALITY PRODUCTIVE FORCES AND GOVERNANCE REFORM

QIAN Jiwei

EAI Background Brief No. 1825

China is pushing innovation to boost technological self-reliance, as underscored in the Third Plenum resolution document released in July 2024. In the face of rising geopolitical tensions and US sanctions, Beijing is accelerating its whole-of-nation approach to indigenous innovation. The strategy focuses on building a modern industrial system anchored by “new-quality productive forces” in high-tech sectors like semiconductors, artificial intelligence, space and biomedicine. At the core is a major reform of the science and technology governance system to better align resources and expand strategic industries. Yet, challenges remain. Coordination gaps persist between the government, academia and industry. China also faces bottlenecks in key “chokepoint” technologies dominated by foreign suppliers. Moreover, support for basic research suffers from tensions between open-end exploration and mission-oriented objectives, while fragmented incentives across firms, local governments and research institutions hinder progress. Despite these headwinds, China’s innovation agenda remains central to its long-term development goals and global tech ambitions.

(Click on the link to read the above in [Chinese](#), [French](#) and [Spanish](#))

Date of Publication: 16 April 2025

Chinese:

中国 2024 科技创新：提升新质生产力和治理体系改革

中国正在推动创新以增强科技自主，这一点在 2024 年 7 月发布的三中全会决议文件中得以强调。面对日益加剧的地缘政治紧张和美国的制裁，北京正在加速推进举国体制战略下的自主创新。这一战略侧重于构建现代化产业体系，以“新质生产力”为核心，聚焦于半导体、人工智能、航天和生物医药等高科技领域。同时也对科技治理体系进行重大改革，以更好地整合资源并促进战略性新兴产业增长。然而，挑战依然存在。政府、学术界和产业界之间的协调仍存在不足。中国在关键的“卡脖子”技术上仍面临外国供应商的垄断。此外，对基础研究的支持因开放式探索和任务导向目标之间内在张力的制约，而企业、地方政府和研究机构之间的缺乏协调一致激励机制，也制约了政策执行的进展。尽管面临这些阻力，中国的创新议程仍然是实现长期发展目标和科技强国愿景的核心。

French:

L'INNOVATION TECHNOLOGIQUE EN CHINE EN 2024: FAVORISER LES FORCES PRODUCTIVES DE NOUVELLE QUALITÉ ET LA RÉFORME DE LA GOUVERNANCE

La Chine encourage l'innovation pour renforcer son autonomie technologique, comme souligné dans le document de résolution du Troisième Plénum publié en juillet 2024. Face à l'augmentation des tensions géopolitiques et des sanctions américaines, Pékin accélère son approche de l'innovation indigène mobilisant l'ensemble de la nation. La stratégie met l'accent sur la construction d'un système industriel moderne basé sur des "forces productives de nouvelle qualité" dans les secteurs de haute technologie tels que les semi-conducteurs, l'intelligence artificielle, l'espace et la biomédecine. Au cœur de cette stratégie se trouve une réforme majeure du système de gouvernance scientifique et technologique pour mieux aligner les ressources et développer des industries stratégiques. Cependant, des défis subsistent. Des défauts de coordination persistent entre le gouvernement, le milieu universitaire et l'industrie. La Chine est également confrontée à des goulets d'étranglement dans des technologies clés dominées par des fournisseurs étrangers. De plus, le soutien à la recherche fondamentale souffre de tensions entre exploration ouverte et objectifs orientés, tandis que des incitations fragmentées entre entreprises, gouvernements locaux et institutions de recherche entravent les progrès. Malgré ces obstacles, l'agenda d'innovation de la Chine reste central pour ses objectifs de développement à long terme et ses ambitions technologiques mondiales.

Spanish:

CHINA'S 2024 INNOVACIÓN TECNOLÓGICA: IMPULSANDO NUEVAS FUERZAS PRODUCTIVAS DE CALIDAD Y REFORMA DE GOBERNANZA

China está impulsando la innovación para fortalecer la autosuficiencia tecnológica, como se subraya en el documento de resolución del Tercer Pleno publicado en julio de 2024. Ante el aumento de las tensiones geopolíticas y las sanciones de EE.UU., Pekín está acelerando su enfoque nacional para la innovación indígena. La estrategia se centra en construir un sistema industrial moderno anclado en "nuevas fuerzas productivas de calidad" en sectores de alta tecnología como semiconductores, inteligencia artificial, espacio y biomedicina. En el núcleo se encuentra una importante reforma del sistema de gobernanza de ciencia y tecnología para alinear mejor los recursos y expandir industrias estratégicas. Sin embargo, los desafíos persisten. Las brechas de coordinación entre el gobierno, la academia y la industria continúan. China también enfrenta cuellos de botella en tecnologías clave "estratégicas" dominadas por proveedores extranjeros. Además, el apoyo a la investigación básica sufre tensiones entre la exploración abierta y los objetivos orientados a misiones, mientras que los incentivos fragmentados entre empresas, gobiernos locales e instituciones de investigación obstaculizan el progreso. A pesar de estos vientos en contra, la agenda de innovación de China sigue siendo central para sus objetivos de desarrollo a largo plazo y sus ambiciones tecnológicas globales.

Executive Summary

1. Strengthening innovation to drive technological progress is increasingly central to China's policy agenda. The resolution document from the Third Plenum of the 20th Party Congress, released in July 2024, underscores the pivotal role of technological innovation in driving China's economy.
2. Amid escalating geopolitical tensions in recent years, marked by US sanctions on Chinese firms and other entities, China has intensified its policy efforts to advance indigenous innovation. These initiatives align with its whole-of-nation approach to technological development.
3. However, challenges persist in China's innovation system such as the lack of synergy between the government, universities/research institutes and enterprises in the realm of innovation, as well as reliance on foreign-controlled "chokepoint" technologies essential for future development.
4. In 2024, China's innovation policy followed two main trajectories under the whole-of-nation approach. The first focuses on establishing a modern industrial system driven by the "new-quality productive forces" (NPF), which refers to technological innovation that promotes productivity in the industrial system.
5. NPF enables industries to move up the value chain, shifting from traditional, labour-intensive models to knowledge-intensive, high-tech industries. Biomedical, semiconductor, artificial intelligence and space sectors are among these high-tech industries.
6. The second is the reform of the science and technology governance system designed to mobilise resources for advancing indigenous innovation and accelerating the expansion of strategic industries.
7. These reforms underscore the pivotal role of basic research in achieving strategic goals as it underpins disruptive innovation and technological leadership.

8. Significant challenges prevail. These include tension between the free exploration of research topics and the push for more strategic, goal-oriented support in basic research.
9. Misaligned incentives among key innovation stakeholders, firms, local governments and research institutes are also evident. Geopolitical shifts continue to pose risks to technological innovation in China.