



中华人民共和国科学技术部
Ministry of Science and Technology of the People's Republic of China



Department for
Business, Energy
& Industrial Strategy



中英科技创新合作战略



目录

卷首语	1
科技创新合作是中英繁荣的关键	3
中英科技创新合作正在进入新阶段	4
战略目标和原则	5
战略目标	
基本原则	
战略领域和重点	6
加强基础研究	
促进创新	
推进中英全球伙伴关系建设	
深化合作的行动和措施	7
完善合作机制	
构建稳定的中英创新联合基金	
实施旗舰挑战合作计划	
设立创新平台	
开放共享科研基础设施	
开放获取研究数据	
知识产权保护和应用	

卷首语



万 钢

科学技术部部长
中华人民共和国

当今世界，科技创新已经成为推动经济增长和可持续发展的重要动力。面对气候变化、粮食安全、能源短缺、传染病防治等全球性问题，任何一个国家都不能独善其身。中国作为一个负责任的发展中大国，愿意积极融入全球创新网络，与世界各国深化合作，共同应对重大挑战，携手构建人类命运共同体。

纵观历史，科学、技术和创新曾经深刻改变了世界发展进程。中国古代创造了灿烂辉煌的科学与文明，近代以来第一次产业革命发端于英国，中英两国都为人类社会发展作出了历史性贡献。当前，全球科技创新进入新的高度活跃期，新一轮科技革命和产业变革正在孕育兴起，这是世界各国未来走向繁荣发展的重大机遇。在这一大背景下，中英两国共同制定科技创新合作战略，进一步挖掘合作潜力，增强互补性，推动合作向多领域、深层次、全方位、高质量的方向发展，这是中英科技创新合作开启“黄金时代”的重要标志，也是中英友好关系深入发展的生动例证。

“志合者，不以山海为远”，中英科技创新合作已经走过了40个春秋。我相信，在平等合作、互利共赢的基础上，中英科技创新合作将向更高水平迈进，两国将共同为世界繁荣发展和人类文明进步贡献新的智慧和力量。

A handwritten signature in black ink, which appears to be the name 'Wan Gang' in a stylized cursive script.

卷首语



乔·约翰逊

商业、能源与产业战略部国务大臣
大不列颠及北爱尔兰联合王国

英国仍处于高水平科研和创新的前沿。科研和创新对开启新机遇、建设适应未来的英国至关重要，两者同时也有助于应对全球性挑战、保护我们的未来。

我们致力于加强国际合作伙伴关系。科研是全球性的协力，我们通过合作能获得更多的成就。为此，我们把国际合作作为新工业战略的重要组成部分，以确保英国成为全球研究人员和投资者的首选合作伙伴。

中英科技创新合作关系扎根于近 40 年的合作历史。如若要最大限度地利用这一伙伴关系，我们需要商定一个经得起时间考验的联合战略。这正是制定中英科技创新合作战略的目标：为发掘利用我们多元化的人才和抱负确立原则。

这一联合战略预示着中英合作的新篇章。我相信，随着时间的推移，它的实施将会带来许多更为重要的和突破性的变化，其影响也将远不止于中英两国。



一、科技创新合作是中英繁荣的关键

中华人民共和国政府和大不列颠及北爱尔兰联合王国政府高度重视开展国际科技创新合作。

中英合作正在进入“黄金时代”，为两国携手应对经济、社会、环境等方面的全球挑战，为增进人类福祉创造机遇。

科技创新是经济增长和繁荣的基础。深化科技创新合作将共同提升两国经济竞争力，有助于两国在新一轮科技革命与产业变革中发挥引领作用。

中英科技创新合作互补性强，双方携手走过了近 40 年的合作征程。中国工程技术创新能力强，人才储备不断增强，基础设施不断完善，创新创业活跃；英国处于全球科技研究的前沿，英国基础科学研究和创新能力强，在诸多领域技术领先。中英两国相继部署实施了新的创新战略，并大幅提高研发投入。

双方科技创新合作高度互补、目标一致，为两国在“黄金时代”深化双边合作奠定了坚实的基础。

鉴此，两国政府（科技主管部门）共同制定《中英科技创新合作战略》，进一步加强长期科技创新合作。

二、中英科技创新合作正在进入新阶段

经过 40 年的共同努力，中英科技创新合作正在进入新阶段。1978 年中英签订政府间科技合作协定，标志着两国科技合作正式开始。1998 年中英建立定期科技联委会机制。2009 年大不列颠及北爱尔兰联合王国政府发布《中英合作框架》，成为两国合作的重要转折点。2014 年中英两国建立了“中英创新合作伙伴关系”，标志着中英科技创新合作正在进入“黄金时代”。

中英科技创新合作极大地促进了两国经济发展和社会进步，双方合作成效显著。双方人员往来不断提升，在联合研究、学术交流、教育培训等方面开展了广泛合作。在中英研究与创新合作伙伴基金框架下，双方共同支持 240 个中英机构在 40 多个资助计划下开展了 460 个合作项目。

三、战略目标和原则

（一）战略目标

中英两国将共同努力，不断丰富中英科技创新合作的内涵，协调地方政府、产学研界及相关部门，确保中英科技创新合作战略的长期实施。

中英将加大人员往来和经济文化交流，加强两国创新政策与法规研究合作，共同支持从研究到成果转化的全链条合作，提升两国科技创新能力和国际竞争力。

中英两国都是负责任的大国，通过提升两国合作水平，引领国际科技创新合作。通过聚集全球智力资源，与世界各国共同应对全球挑战，构建人类命运共同体，造福全人类。

（二）基本原则

中英战略实施过程中，双方遵循以下三个原则：

1. 尊重产权、互利共赢。加强知识产权保护，推动创新、商业化和贸易合作，确保双方合作利益。积极参与和主导全球规则和标准的制定，提升两国国际话语权。中英双方遵循国际知识产权的基本原则，进一步完善知识产权的保护和应用。

2. 突出重点、项目驱动。支持两国伙伴机构以项目为主开展合作。选择中英双方共同感兴趣的优先领域，联合开展创新合作研究，实施旗舰挑战计划，推动两国成为应对全球挑战和创新驱动发展的引领者。

3. 政府引导、社会主体。两国政府制定战略和政策，激发个人、企业、研究机构等创新主体开展创新合作的积极性和潜力，推进产学研合作，促进协同创新，确保中英科技创新合作战略有效实施。

四、战略领域和重点

双方主要从加强基础研究、促进创新、推进中英全球伙伴关系建设三方面开展合作。同时，为了确保战略的实施，中英两国还应加强政策、管理方面的沟通。

（一）加强基础研究

推动双方科学设施互相开放，促进双方科研人员开展学术交流和重大科学项目联合研究，重点在生命科学与医学、物理、数学、天文、天气和气候科学、人文艺术等领域优先开展合作。

（二）促进创新

针对中英两国经济发展需求，以及应对人类面临的共同挑战，遴选优先领域与重点方向，共同将新技术进行产业化。

为解决粮食安全、能源短缺、重大疾病、环境保护等重大问题，在种业、水土保持、离岸可再生能源、智能技术、储能、建筑节能、城镇化、交通（包括电池）、大气污染和人体健康、先进治疗（包括细胞和基因治疗）、抗生素耐药性、人口老龄化、抵御自然灾害等重点领域开展联合研发，攻克一批技术，应对两国及全球共同面临的主要挑战。

为促进两国经济增长，在低碳和绿色制造、机器人、遥感和卫星技术、科技工程项目、创意经济、金融风险管理等重点领域优势互补、强强联合，促进经济合作，创造更多高质量就业。

支持两国企业、研究机构加强合作，促进技术联合开发和应用推广。

在基础研究合作和创新合作方面，进一步探讨共建联合研究中心、合作基地，争取逐年增加被国际引用的有影响力的合作论文数。

开展技术预测，遴选优先合作领域。邀请两国智库团队进行磋商，促进两国高校、科研院所、企业的交流对话，明确合作中的难点和问题。

（三）推进中英全球伙伴关系建设

针对不同性质的全球挑战，中英可适时邀请第三国的一流专家、研究机构和高科技企业或者国际组织，聚集全球智力资源，共同参与全球性复杂问题研究，增进人类福祉。

五、深化合作的行动和措施

探索合作新思路，增强双边合作的有效性和多元性，丰富合作层次，拓展合作范围。持续加强中英科技创新合作，为两国在全球科技创新领域的发挥领先作用提供支撑。

（一）完善合作机制

进一步优化双边合作机制，加强对双边合作的战略引导。以中英科技创新合作联委会为基础，研究建立中英创新对话等新机制，适时组建专家团队，为中英创新对话等提供决策支持。

（二）构建稳定的中英创新联合基金

自 2014 年中英研究和创新伙伴基金成立以来，中英双方共同投入逾 2 亿英镑。为保证本战略的实施，还将探索长期支持双方创新合作的资金渠道，充实中英研究和创新伙伴基金。

（三）实施旗舰挑战合作计划

针对两国经济社会发展中的共性问题 and 重大需求，双方依托有关合作机制，共同遴选优先合作领域，启动年度旗舰挑战计划。2018 年第一期旗舰挑战计划将重点支持农业技术。

（四）设立创新平台

在现有联合研究中心的基础上，两国将探讨共建新的联合实验室和研究中心，在优先领域实现优势互补、强强联合。中英双方将依托地方和企业，共建一批国际产业创新园或者非实体平台，加速研究、技术研发和示范的产业化进程。

（五）开放共享科研基础设施

根据双方科研合作需求，探索相互开放共享科研基础设施的有效机制，遵循双方科研基础设施管理办法，优先对参与合作研究的人员开放使用。

（六）开放获取研究数据

推动共享本战略下开展的合作活动产生的非专有性质的科研和技术信息，以免费、公开的方式促进非专有性质的数据交换。

（七）知识产权保护和应用

加强两国知识产权机构间合作与交流。建立健全知识产权政策和服务体系，加强知识产权保护，促进两国创新合作和贸易往来。支持两国金融机构、研究院所和企业加强在科技创新领域的知识产权合作。



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UK-CHINA JOINT STRATEGY FOR SCIENCE, TECHNOLOGY AND INNOVATION COOPERATION



Contents

Forewords	1
Science, Technology and Innovation Cooperation is the Key to Prosperity of the UK and China	3
UK-China Collaboration is Entering a New Phase	4
Strategic Goals and Principles	5
Strategic Goals	
Principles	
Strategic Areas of Focus	7
Basic Research	
Innovation	
UK-China Global Partnerships	
Actions and Measures to Deepen Our Cooperation	9
Enhanced Cooperative Mechanisms	
UK-China Joint Innovation Funding	
Implement Flagship Challenge Programme	
Establish Innovation Platforms	
Mutual Access to Research Infrastructure	
Open Access to Data	
Intellectual Property Rights Protection and Application	

Forewords



Wan Gang

Minister, Ministry of Science and Technology
The People's Republic of China

Science, technology and innovation has become an important driving force for promoting economic growth and sustainable development in today's world. Facing global challenges such as climate change, food security, energy shortage, prevention and control of infectious diseases, no single country can stand alone. As a responsible developing country, China is willing to engage actively with global innovation network and deepen cooperation with all other countries, to jointly address major challenges and to build a community of shared future for mankind.

Throughout history, science, technology and innovation had profoundly changed the course of the world's development. Ancient China has created brilliant science and civilization, while the first modern industrial revolution took root in the UK - both nations have made important contributions to the human development.

At present, science, technology and innovation are highly active at a global scale. The next science and technology revolution and industrial transformation is under way, creating a major opportunity for the world's future prosperity. Seizing this opportunity, China and the UK issued joint strategy for science, technology and innovation cooperation. The strategy will further tap the potential of collaboration, enhance complementarity, and promote cooperation in more areas, deeper aspects and higher qualities. It signifies the start of a 'Golden Era' for China-UK science, technology and innovation cooperation. It also serves as a vivid example of the in-depth development of China-UK partnership.

There is a saying in China that 'No distance, not even great mountains and oceans, can separate people who share the same visions'. China-UK science, technology and innovation cooperation has gone through 40 years. I believe that on a equal and mutually beneficial basis, our cooperation will move towards a higher level, and both nations will contribute new wisdom and strength to the prosperity and development of the world.

A stylized handwritten signature in black ink, consisting of several fluid, connected strokes.

Forewords



Jo Johnson

Minister of State, the Department of Business, Energy and Industrial Strategy

The United Kingdom of Great Britain and Northern Ireland

The UK continues to be at the forefront of excellence in scientific research and promoting innovation. Both are critical in unlocking new opportunities to ensure we are building a Britain fit for the future, and both help address global challenges to safeguard all our futures.

We are committed to strengthening our international partnerships. Science and research are global endeavours and we achieve more when collaborating with others. It's why we made international collaboration an important part of our new Industrial Strategy to ensure the UK remains the partner of choice for researchers and investors across the globe.

UK-China science and innovation cooperation is rooted in a partnership spanning nearly 40 years. If we are to maximise the opportunity of this partnership we need a jointly agreed strategic approach, and one that will stand the test of time. This is what this strategy aims to do, establishing the principles to harness our diverse talents and ambitions.

This joint strategy heralds a new chapter for UK-China cooperation. I am confident that its implementation will over time lead to many more important and transformational changes whose reach will be far wider than just our two countries.

A handwritten signature in black ink that reads "Jo Johnson". The signature is written in a cursive, flowing style.

1. Science, Technology and Innovation Cooperation is the Key to Prosperity of the UK and China

The governments of the United Kingdom of Great Britain and Northern Ireland and the People's Republic of China recognise the importance of international collaboration in science, research and innovation.

UK-China collaboration is entering the Golden Era. This has created new opportunities for both countries to join together to address a range of global challenges – including social, environmental and economic – with the potential to bring benefit to all of mankind.

Science and technology are fundamental building blocks, and innovation the realization of economic growth and prosperity. By deepening our cooperation, we will build our collective capacity to strengthen our economic competitiveness, and prepare and lead the way for future industrial revolutions.

The respective strengths of the UK and China are highly complementary, and are based on a long history of successful cooperation spanning nearly 40 years. The UK excels in basic science, research and innovation, and is a technological lead in a range of sectors; and China's particular strengths lie in the innovation of engineering technologies and in new, innovative business, with a deep pool of talent and unique infrastructure. Both countries have committed substantial additional funding to further strengthen research and innovation within new innovation strategies. This complementarity and shared ambition provides a strong base to deepen our bilateral collaboration in this Golden Era.


It is on this basis that the competent authorities on science and technology of our two governments have developed this joint strategy to further strengthen our cooperation for the long-term.

2. UK-China Collaboration is Entering a New Phase

After 40 years of collaborative working, UK-China science, technology and innovation cooperation is entering a new phase.

The UK-China Science & Technology Cooperation Agreement signed in 1978 marked the official start of bilateral Science & Technology cooperation. The regular UK-China Joint Commission meeting on STI Cooperation commenced in 1998. This was followed in 2009 when the United Kingdom of Great Britain and Northern Ireland published the UK-China Cooperation Framework. This Framework marked an important turning point in bilateral cooperation. In 2014, our two countries established the UK-China Research and Innovation Cooperation Partnership Fund.

UK-China collaboration has already greatly benefited both countries and this collaboration and its outputs are clear. Personnel exchange continues to increase, with a range of joint research, academic exchanges and training initiatives. The UK-China Research and Innovation Partnership Fund has supported over 460 projects and partnerships across more than 40 funding initiatives and has reached 240 institutions across the UK and China. We are also benefiting from existing joint innovation platforms.



3. Strategic Goals and Principles

3.1 Strategic Goals

Our two governments will work jointly to enrich the UK-China collaboration, working with and through a range of local, academic, research, innovative businesses and investors, policy and regulatory bodies to support the long term delivery of the strategy.

This strategy encompasses the full breadth of potential links between our two countries from research through to the commercialisation of new technologies. It will seek to deepen the personnel, economic and cultural exchanges between our two countries. It will improve our joint scientific and technological innovation capability and competitiveness. It will support cooperation, including on policies and regulations to drive research and innovation so that new ideas generate economic and social value and enhance the competitiveness of both countries.

Together we will recognise excellence in the pursuit of the highest quality collaboration in science and thereby lead the way in international cooperation. Finally, we will work together and lead others to address the global challenges the world is facing.

3.2 Principles

This strategy will have three principles that will guide its implementation.

Intellectual Property Rights

Both countries will respect intellectual property rights. Effective protection of intellectual property rights will promote collaboration in innovation, commercialisation and trade, as well as protecting the interests of both countries. We will actively collaborate to lead and participate in


the development of global regulations and standards to enhance the international voice of both countries. We recognise the importance of flexibility for innovators and researchers to understand and negotiate their intellectual property outcomes. Both countries intend to further improve the intellectual property rights through a set of shared principles.

Project-focused bilateral cooperation

Through our partner organisations we will focus on project-based cooperation. Priority areas of common interest will be identified to support and enhance our existing joint research and innovation activities, including through Flagship Challenge Programmes. This focused approach to collaboration will support the countries' shared ambition to be global leaders in addressing global challenges and driving socio-economic development.

Engaging research and innovation communities

Although both governments will set the strategy and the supporting policy and regulatory framework, the implementation will rest with the participation of a range of local organisations and institutions, and talented individual researchers and innovators. These organisations will work together with their bilateral partners, and with businesses, to ensure the effective implementation of the strategy, making the most of our individuals' talents and capabilities.



4. Strategic Areas of Focus

We will structure our collaboration across three areas: in Basic Research, in Innovation and in UK-China Global Partnerships. We will also work jointly on governance and policy implications to support this strategy.


4.1 Basic Research

Both countries will facilitate open access to each other's research infrastructure and promote academic exchange and cooperation on major science projects between researchers from the two sides. The priority areas will include life science, medicine, physics, mathematics, astronomy, meteorology and climate, arts and humanities.

4.2 Innovation

To meet the needs of the UK and China for economic growth and to address global challenges, the two countries will select priority areas and topics and work together to achieve breakthroughs and jointly commercialise new technologies in these areas.

To address challenges such as food security, sustainable energy, major diseases and environmental issues, both countries will work together on a number of technologies, that will include but not be limited to: seed, water and soil conservation, offshore renewable energy, smart technologies and energy storage, the heating, cooling and efficiency of buildings, urbanisation, mobility (including batteries), air pollution and human health, advanced therapies (such as cell and gene therapies), antimicrobial resistance, ageing population, and resilience to natural hazards. These are all major challenges facing our two countries and globally.



To drive economic growth, the UK and China will work together in complementary areas that may include but are not be limited to: low carbon and green manufacturing, robotics, satellite applications such as remote sensing, and engineering programmes and projects. We will also collaborate on the creative economy, and in areas such as financial risk management, so as to boost economic cooperation and to create more good quality employment.

Both countries will support our enterprises and research institutes to strengthen innovation cooperation and to promote joint technology development and application.

On basic research and on innovation, both sides will explore further opportunities to establish joint research, and innovation, centres, and other collaborative bases and aim to continue to increase, on a year-on-year basis, the number of high impact internationally-cited joint research papers.

Both countries will carry out a process of technology foresight to identify and prioritise the focus of this collaboration. To support this process the two sides will seek to involve consultation between think-tanks of both countries, facilitating dialogues and exchanges between Academies, universities, research institutes and enterprises from both countries, to identify potential barriers to progress.

4.3 UK-China Global Partnerships

In addressing the scale and range of global challenges, UK-China cooperation may also consider jointly inviting third countries or international organisations to provide expertise and capacity to combat complex questions. This may enable access to unique scientific expertise in clusters of world-class researchers and hi-tech businesses. It will enable both countries to work jointly with third countries and in other parts of the world on global challenges.



5. Actions and Measures to Deepen Our Cooperation

The two countries will continue to explore ways to enhance the effectiveness and diversity of our bilateral cooperation, at multiple levels and by engaging wider communities. This will ensure a continuous strengthening of UK-China cooperation to maintain our global leadership in science, technology and innovation activities for the long-term.

5.1 Enhanced Cooperative Mechanisms

Both countries will explore how to optimise the formal bilateral collaboration mechanisms, building on the UK-China Joint Commission Meeting on Science, Technology and Innovation Cooperation. This will include establishing the UK-China Science and Innovation Dialogue to provide overall strategic direction. The Dialogue will be supported and advised by an Expert Group.

5.2 UK-China Joint Innovation Funding

The UK and Chinese governments have jointly committed funding worth over £200 million since the UK-China Research and Innovation Partnership Fund was first announced in 2014. Both countries will work together to identify opportunities jointly to support the long-term implementation of the strategy, if possible, through channeling more financial support for the Partnership Fund.



5.3 Implement Flagship Challenge Programme

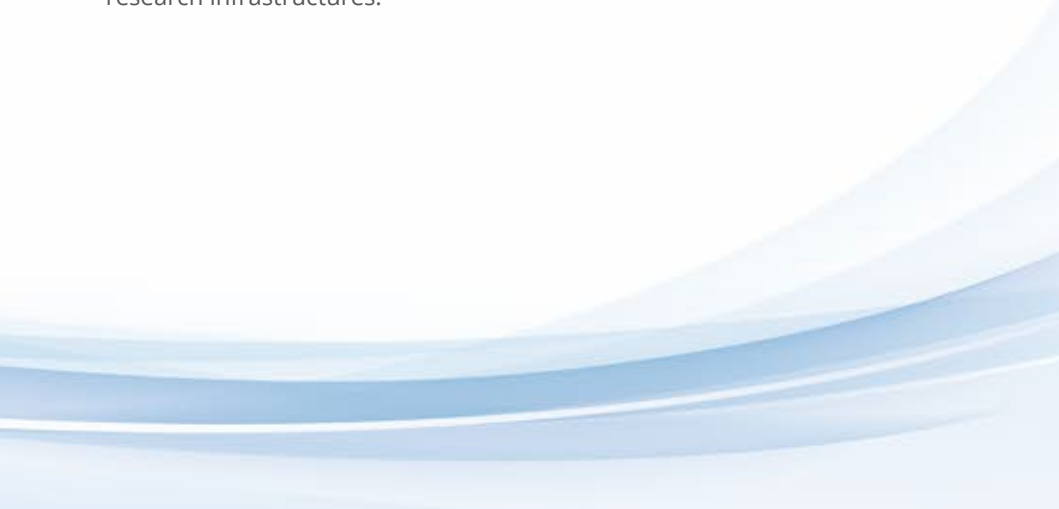
To address common challenges and the need for economic growth, the two sides intend jointly to identify priority areas and launch annual Flagship Challenge Programmes, guided by the decisions of the cooperation mechanisms, as set out above. The first Flagship Challenge in 2018 will focus on agricultural technologies.

5.4 Establish Innovation Platforms

Building on the existing joint research centres, the two countries will explore opportunities to establish new joint laboratories and research centres so as to combine our respective strengths in priority areas. UK and Chinese local organisations and industry will consider jointly developing a number of international industrial innovation parks, or equivalent virtual platforms, to accelerate the transition of research and technology development and demonstration into commercial propositions.

5.5 Mutual Access to Research Infrastructure

The two sides will explore establishing mechanisms to ensure mutual access to research infrastructure in both countries. This could include mechanisms to give priority access to UK-China partnerships. We will respect the existing policies and rules of each side on the management of research infrastructures.



5.6 Open Access to Data

The two sides will jointly work together to facilitate the free and open exchange of non-proprietary data and the sharing of scientific research and technological information of non-proprietary nature derived from the cooperative activities under this strategy.

5.7 Intellectual Property Rights Protection and Application

The cooperation and exchange between the two countries' intellectual property institutions will be strengthened. Improved intellectual property policies and service mechanisms will be established to enhance the protection of intellectual property rights which in turn support innovation and trade in both countries. We will support financial institutions, researchers and businesses in both countries to enhance IP collaboration, particularly in the field of research and innovation.

