



Research and Development Working Group

3. 1. Improve the Overall Intellectual Property Rights (IPR) Legal System and Improve Enforcement in Order to Foster a Business Environment that Provides the Necessary Assurances to Enable World-Class Innovation in China

- Give full play to free market forces and balance policies for the import and export of technologies to realise genuine innovation.
- Involve international companies in the whole process of policy consultation on the Chinese IPR legal system, covering policy-drafting, policy-revising and integration of feedback on policy implementation.

5. 2. Encourage International Companies to Contribute to Chinese Research and Development (R&D) Operations by Optimising the Financial Incentives Framework

- Encourage international businesses to participate in national and regional key R&D projects by setting up fair and transparent regulation with a clear application process.
- Provide European small and medium-sized enterprises (SMEs) in China with equal access to financing as domestic companies for joint international R&D activities.
- Remove the restrictions prohibiting international businesses from applying for high and new technology enterprise (HNTE) status to ensure that all internationally-qualified R&D institutions can benefit from participation in the Chinese innovation system.

4. 3. Invest in China's Living Environment to Facilitate Sustainable R&D Activities, Particularly Green Technology Development

- Establish regional cooperation platforms which are open to international companies with research operations on an equal footing with Chinese companies.
- Provide foreign-invested enterprises with equal access to incentives and preferential policies on environmentally friendly technological development as domestic companies.
- Set up incentive programmes to facilitate the creation of pilot and demonstration areas for environmentally friendly technologies and their commercialisation.

5. 4. Facilitate the Exchange of Scientists at all Levels as Part of a Joint Effort with the European Union (EU)

- Accelerate the pace of rolling out innovation-friendly reforms and implement policies nationwide after they are piloted successfully in free trade zones (FTZs).
- Provide more flexible visa application processes that allow foreign scientists to work in China on short-term, joint R&D projects, and make the process more transparent.

5. Improve International Companies' Access to Data in China to Foster Digital Innovation and Enhance China's Innovation Capability

- Clearly define the scope and proportion for international joint research activities to encourage international businesses' participation in China's Internet Plus projects.
- Formulate a guideline on industrial data access for R&D purposes in China.
- Provide an industrial data-sharing platform for all players, including both domestic and foreign multinational corporations (MNCs) and SMEs.



Introduction to the Working Group

Research and development (R&D) involves the innovation, promotion and improvement of products and processes, pushing the limits of technology and continuously improving technological services and solutions. Companies use their R&D to quickly respond to societal changes and market demands for the development of cutting-edge products, while also significantly improving the country's economic growth and ability to create jobs. R&D contributes to the development of emerging technologies, like artificial intelligence (AI) and the Internet of things (IoT), which can be applied in various industries to improve people's lives, such as through increasing efficiency in manufacturing, improving diagnostic rates in healthcare and providing equal education for children living in remote areas. At present, innovation capability is regarded as key for China to avoid the middle-income trap and to enhance overall technological strength. The Research and Development Working Group believes that in order for China to reach its goal of becoming a world science and technology (S&T) power by 2049,¹ it must strengthen global S&T cooperation and engage the international R&D community.

The European Chamber's Research and Development Working Group provides a platform for exchanging information, experiences and best practices among member companies and promotes dialogue and transparency in R&D policy. It was created to further develop the activities of the former Research and Development Forum, as members felt the need to engage directly with Chinese authorities at both the central and local levels. The working group is comprised of professionals directly involved in R&D operations, with representatives from more than 80 European multinational corporations (MNCs) that have R&D centres and large-scale R&D operations in China, with the majority located in and around Beijing and Shanghai. Various industries are represented in the working group, including automotive, chemicals and petrochemicals, information and communications technology, aerospace, energy, and pharmaceuticals.

Recent Developments

With the rapid development of S&T innovation, China

has progressed further on its journey to becoming an innovation-focussed country. The global innovation index, published by the World Intellectual Property Organization (WIPO) in 2018, ranks China 17th out of the 126 countries included.² In 2018, China's R&D spending amounted to Chinese yuan (CNY) 2 trillion, an 11.6 per cent increase over 2017.³

As a supplement to capital investment, various innovation-specific policies and incentives have also been implemented to stimulate more innovation. On 15th May 2019, the National People's Congress (NPC) adopted the new Foreign Investment Law of the People's Republic of China (FIL), which will take effect from 1st January 2020. Chapter III of the FIL lists a few protective measures for foreign investment. Among them, Article 22 prohibits administrative bodies from forcing technology transfer by administrative measures.⁴ This echoes the language used in other high-profile policies that have been released in recent years, most notably *State Council Document No. 19 [2018]*. However, this leaves open the possibility for any non-administrative body to use any other means to compel technology transfers. Instead, the FIL should simply prohibit forced technology transfer by any means. The detailed implementation rules for this legislation are yet to be seen, and despite the pledges from the government, forced technology transfers still persist. According to the *European Business in China Business Confidence Survey 2019 (BCS 2019)*,⁵ 20 per cent of respondents report feeling compelled to transfer technology in order to maintain market access, which is double the number of cases reported in 2017. This trend is particularly prevalent in high-tech industries, such as chemicals and petrochemicals, automotive and medical devices. It is concerning that 63 per cent of those that felt compelled to transfer technology said it took place in the last two years, and a quarter said the transfer was taking place during the time of the survey (January 2019). It is also notable that, in most cases, forced technology transfers do not take place through administrative means but in a business context.

² *Global Innovation Index 2018*, WIPO, 2018, viewed 30th April 2019, <<https://www.wipo.int/publications/en/details.jsp?id=4330>>

³ *2018 China R&D Spending Summary*, State Council, 5th March 2019, viewed 29th March 2019, <http://www.gov.cn/xinwen/2019-03/05/content_5371046.htm>

⁴ *China's New Foreign Investment Law*, *People's Daily*, 2019, viewed 29th March 2019, <http://paper.people.com.cn/rmrb/html/2019-03/21/nw.D110000renmrb_20190321_7-01.htm>>

⁵ *European Business in China Business Confidence Survey 2019*, European Union Chamber of Commerce in China, May 2019, <<https://www.eurochamber.com.cn/en/publications-business-confidence-survey>>

¹ *Building a World Power in Science and Technology*, *Xinhua*, 30th May 2018, viewed 6th June 2019, <http://www.xinhuanet.com/politics/xxjxs/2018-05/30/c_1122908666.htm>





European businesses play an important role in China's R&D development. Having gathered decades of localised experience and leadership in S&T, European technological enterprises are uniquely equipped to help improve China's R&D ecosystem. China can utilise this experience to help it improve its domestic innovation capacity. While 73 per cent of respondents in the *BCS 2019* report that China's innovation and R&D environment is more or as favourable as the worldwide average, more can be done to improve the transparency of incentives given for innovation, provide flexible access to global talent and to deliver greater legislative support.

At the third EU-China Innovation Cooperation Dialogue (ICD) in June 2017, the European Commission and the Ministry of Science and Technology (MOST) agreed to renew the EU-China Co-funding Mechanism on Research and Innovation for 2018–2020 to support joint research and innovation-related projects under the framework of Horizon 2020.⁶ From 2016 to 2020, over euro (EUR) 500 million from the European Union (EU) and Chinese yuan (CNY) 1 billion from China will be allocated to a variety of different sectors, including food, agriculture and biotechnology, environment, sustainable urbanisation, surface transport, space and healthcare, among others.⁷ In April 2019, during the fourth EU-China High Level ICD, the European Commission and MOST shared views on S&T collaboration and exchanged information about their latest plans and priorities; also the two sides confirmed their intention to renew the EU-China Science and Technology Cooperation Agreement.⁸ The EU side focussed on the Horizon Europe proposal for 2021–2027, while the Chinese side promoted its Medium- and Long-Term S&T Development Plan for 2021–2035.⁹

During the Belt and Road Forum for International Cooperation (BRF) in May 2017, President Xi Jinping announced the launch of the Belt and Road Science,

Technology and Innovation Cooperation Action Plan,¹⁰ which will entail China inviting 2,500 young scientists to engage in short-term R&D work, training up to 5,000 scientists and technicians, and investing in 50 jointly operated laboratories within five years. According to Chinese media, by the end of 2018, 269 projects outlined during the first BRF had been completed and 10 projects were underway, an implementation rate of 96.4 per cent.¹¹

In 2017, an enhanced R&D tax allowance rate was introduced for small and medium-sized S&T enterprises.¹² This allows the firms to deduct 75 per cent of their R&D expenses, instead of the previous 50 per cent, from their total taxable income for the period from 1st January 2017 to 31st December 2019, provided no intangible assets have been developed. If any intangible assets are created as a result of R&D, 175 per cent of the intangible assets' original costs shall, for the above period, be amortised. Other tax relief for R&D has also been provided from 2009 to incentivise and reward greater innovation in China.¹³

Under the 2018 institutional restructuring plan,¹⁴ the original duties of the State Administration of Foreign Experts Affairs (SAFEA) and the National Natural Science Foundation of China (NSFC) were transferred to the MOST. This should facilitate the mobility of international talent by easing the visa application and approval process for both experienced and young researchers, while also improving the efficiency of allocating government funding for research purposes. The working group hopes that with this newly unified and streamlined ministry, the allocation of S&T resources can be optimised to retain talent and promote innovation.

6 *What is Horizon 2020?*, European Commission, viewed 10th March 2019, <<https://ec.europa.eu/programmes/horizon2020/en/what-horizon-2020>>

7 *Notice on Issuing the Application Guidelines for the First Batch of Projects for 2018 under the Intergovernmental International Science, Technology and Innovation Cooperation Key Project of the National Key R&D Programme*, MOST, 22nd March 2018, viewed 2nd May 2019, <http://www.most.gov.cn/mostinfo/xinxifenlei/fgzcgfxfwj/gfxfwj2018/201803/t20180326_138789.htm>

8 *Joint Statement of the 2^{1st} EU-China Summit*, Delegation of the European Union to the UN and other international organisations in Geneva, 10th April 2019, viewed 19th June 2019, <https://eeas.europa.eu/delegations/un-geneva/60836/joint-statement-21st-eu-china-summit_en>

9 *Fourth EU-China High Level Innovation Cooperation Dialogue – Joint Communiqué*, European Commission, 9th April 2019, viewed 11th April 2019, <https://ec.europa.eu/research/iscp/pdf/policy/ec_td_joint_communique_icd4_2019.pdf>

10 *Xi Jinping: China Launches Belt & Road STI Cooperation Action Plan*, MOST, 16th May 2017, viewed 2nd May 2019, <http://most.gov.cn/ztlz/qgkjcxhdhzyzn/yw/201705/t20170527_133171.htm>

11 *The Implementation Rate of 279 Projects of the First Belt and Road Forum for International Cooperation Exceeded 96%*, *Xinhua*, 22nd January 2019, viewed 1st April 2019, <http://www.xinhuanet.com/2019-01/22/c_1124027064.htm>

12 *Notice on Raising the Proportion of Weighted Pre-tax Deduction of the Research and Development Expenses of Small- and Medium-sized Scientific and Technological Enterprises*, Ministry of Finance, State Administration of Taxation and the MOST, 2nd May 2017, viewed 8th April 2019, <http://www.most.gov.cn/mostinfo/xinxifenlei/fgzcgfxfwj/gfxfwj2017/201705/t20170503_132605.htm>

13 *R&D Tax Incentives: China*, Directorate for Science, Technology and Innovation at the Organisation for Economic Co-operation and Development, April 2018, viewed 8th April 2019, <<http://www.oecd.org/sti/rd-tax-stats-china.pdf>>

14 *The State Institutional Reform Plan of the State Council*, State Council, 17th March 2018, viewed 19th March 2019, <http://www.gov.cn/guowuyuan/2018-03/17/content_5275116.htm>





Key Recommendations



3. 1. Improve the Overall Intellectual Property Rights (IPR) Legal System and Improve Enforcement in Order to Foster a Business Environment that Provides the Necessary Assurances to Enable World-Class Innovation in China

Concern

Despite continuous improvements to China's intellectual property (IP) system, international businesses still encounter difficulties in exercising their legal rights, which means they do not have the level of assurance they need to commit to investing in top-level technological innovation.¹⁵

Assessment

In China, international businesses developing new technologies are making significant contributions to the country's economic transformation – from 'made in China' to 'created in China'. China has risen to become one of the most attractive global destinations for R&D investments, which benefits Chinese society as a whole. Top level researchers, senior scientists and skilled workers are being trained and developed, and technological upgrading is taking place in many domestic companies.

In December 2018, Premier Li Keqiang announced the approval of the *Draft Amendment to the Patent Law of the People's Republic of China* in order to further protect property rights and combat infringements on innovation.¹⁶ This draft amendment focuses on enforcing the punishment on infringement of intellectual property rights (IPR), such as increasing the amount of compensation and fines for counterfeiting.¹⁷ It also creates a patent authorisation system that regulates the incentive mechanism for the inventor to reasonably share the benefits of inventions.¹⁸ However, the final approval of this amendment is still pending with the National People's Congress (NPC),¹⁹ and

implementation plans are vague and ambiguous, which is of great concern to foreign businesses. The working group therefore calls for urgent promulgation of the Patent Law along with implementing rules that are detailed and transparent.

At the same time, the process for transferring IP from Chinese firms to foreign parties has become progressively tighter, with transfers being strictly reviewed if they appear to affect 'national security' or core technology in key fields.²⁰ European companies face restrictions on ownership of IP produced from research and commercialisation projects receiving Chinese Government funding, according to Article 21 of the Science and Technology Progress Law²¹ and industry specific/local regulations.

New IP produced by projects that receive Chinese state funding require the following:

- Approval from the relevant government authorities if IP is to be transferred or exclusively licensed to non-Chinese entities (including to international project partners that contribute background IP).
- That the new IP be 'used' first inside China (i.e. the first licence for the newly-produced IP must be in China).

On 2nd March 2019, the State Council repealed three controversial articles within the *Technology Import and Export Administrative Regulation (TIER)*.²² Although removing TIER provisions is a positive development in controlling forced technology transfer from a legal perspective, the repeal of these articles does not automatically mean that forced technology transfer is forbidden under all conditions and circumstances. The enforcement of IPR legislation should be further enhanced as well. The working group believes that involving international companies in the process of requesting foreign companies' opinions on policy implementation and integrating their feedback in policy enforcement can help improve China's IPR system, and further contribute to China's innovation capability. Worth mentioning, during the 21st EU-China Summit in April

15 For more analysis on the IPR legal system, enforcement and other IP protection-related issues see the *Intellectual Property Rights Working Group Position Paper*.

16 Premier Li: *Decides to Extend More Reforms to Promote Innovation*, State Council, 5th December 2018, viewed 9th April 2019, <http://www.gov.cn/premier/2018-12/05/content_5346016.htm>

17 Ibid.

18 Ibid.

19 For more analysis on the IPR legal system and patent issues in general, please see Key Recommendation 1 in the *Intellectual Property Rights Working Group Position Paper*.

20 *External Transfer of Intellectual Property Rights Measures (Trial Implementation)*, State Council, 29th March 2018, viewed 8th April 2019, <http://www.gov.cn/zhengce/content/2018-03/29/content_5278276.htm>

21 *Science and Technology Progress Law*, Standing Committee of the National People's Congress, 29th December 2007, viewed 10th April 2019, <http://www.gov.cn/flfg/2007-12/29/content_847331.htm>

22 *Administrative Decree No.709*, State Council, 2nd March 2019, viewed 17th May 2019, <http://www.gov.cn/zhengce/content/2019-03/18/content_5374723.htm>





2019, the EU and China underlined the importance of following international standards in intellectual property protection and enforcement and committed to ensuring a legal environment in which creators, inventors and artists can license their rights on market terms and effectively enforce these rights before courts and relevant authorities.²³

Recommendations

- Give full play to free market forces and balance policies for the import and export of technologies to realise genuine innovation.
- Involve international companies in the whole process of policy consultation on the Chinese IPR legal system, covering policy-drafting, policy-revising and integration of feedback on policy implementation.



2. Encourage International Companies to Contribute to Chinese R&D Operations by Optimising the Financial Incentives Framework

Concern

Despite being an essential part of the Chinese innovation ecosystem, foreign enterprises still face difficulties applying for tax deductions, public funding and grants for R&D in China in comparison to domestic companies.²⁴

Assessment

International R&D is part of the Chinese national innovation system: international companies' R&D centres employ Chinese nationals, generate Chinese patents and industrialise their innovations in China. They also collaborate with Chinese universities and academic laboratories. All in all, they are a crucial part of the Chinese innovation ecosystem.

China has a solid set of incentives in place to stimulate innovation, including 'strategic support' (long-term structural incentives like the high and new technology enterprise (HNTE) status and the super-deduction scheme) and 'tactical support' (focused grants for projects with a definite scope and target).

In order to maximise the potential of the Chinese innovation network, it is essential that all key stakeholders work together on an equal footing. This was emphasised during the China Development Forum 2018, when Premier Li Keqiang stressed that international companies and Chinese companies should not be treated differently while implementing China Manufacturing 2025 (CM2025).²⁵

On 29th January 2016, the MOST, the Ministry of Finance (MOF) and the State Administration of Taxation (SAT) revised the criteria for HNTE status recognition.²⁶ Although certain requirements were somewhat relaxed, such as the minimum R&D expense ratio and academic qualifications of staff, the standards for IP ownership have actually been tightened. Under the current rules, a global, exclusive IP ownership licence that is valid for over five years is no longer sufficient for obtaining HNTE recognition; instead the core IP needs to be owned by the company applying for HNTE status.

International companies run some of China's largest R&D operations. However, in many cases, although they are domestically operated, international businesses initially developed some of their technologies outside of China, which is problematic for European companies looking to have their IP ownership recognised and attain/maintain HNTE status. The Research and Development Working Group therefore asks for HNTE recognition standards to take international ownership into consideration.

Regarding grant applications, international companies feel they are competing on an uneven playing field due to a lack of clarity and reliability in the selection process. For example, an extensive amount of materials need to be submitted, yet the grant application period is extremely short. The language that details are provided in is another issue that creates privileged access for Chinese companies to tender information, which then gives them a higher chance of obtaining grants.

In order to establish an efficient R&D ecosystem in China, engaging the international R&D community will be crucial. European companies can bring capital,

²³ *Joint Statement of the 21st EU-China Summit*, Delegation of the European Union to the UN and other international organisations in Geneva, 10th April 2019, viewed 19th June 2019, <https://eeas.europa.eu/delegations/un-geneva/60836/joint-statement-21st-eu-china-summit_en>

²⁴ For more analysis and further recommendations on the financial incentives for R&D, please see Key Recommendation 4 in the *Finance and Taxation Working Group Position Paper*.

²⁵ *Premier Li Vows to Deepen Reform, Opening Up*, State Council Information Office, 27th March 2018, viewed 8th April 2019, <http://english.gov.cn/premier/news/2018/03/27/content_281476090990230.htm>

²⁶ *Regulation on the Determination and Administration of High and New Technology Enterprise (2016 Revision)*, MOST, 2016, viewed 10th April 2019, <http://www.most.gov.cn/kjzc/gjjkzc/qyjsjb/201706/t20170629_133827.htm>



human resources, advanced equipment, ideas and know-how, as well as a culture of innovation. However, there are currently only a few joint international academic-industrial research programmes, with options especially limited for European SMEs.²⁷ The difficulty of accessing financing in China is the main reason for the lack of R&D cooperation projects for SMEs between China and other countries. This in turn hinders China in leveraging international S&T cooperation to reach its goal of developing its technological strength. On 5th March 2019, Premier Li Keqiang stated that China will optimise its innovation ecosystem and encourage all stakeholders—both domestic and foreign MNCs and SMEs—to proactively and collaboratively participate in innovation.²⁸ As European SMEs form a significant part of China's innovation ecosystem, the working group calls for them to be given equal access to financing as domestic companies.

Recommendations

- Encourage international businesses to participate in national and regional key R&D projects by setting up fair and transparent regulation with a clear application process.
- Provide European small and medium-sized enterprises (SMEs) in China with equal access to financing as domestic companies for joint international R&D activities.
- Remove the restrictions prohibiting international businesses from applying for HNTE status to ensure that all internationally-qualified R&D institutions can benefit from participation in the Chinese innovation system.

4 3. Invest in China's Living Environment to Facilitate Sustainable R&D Activities, Particularly Green Technology Development

Concern

There is not enough government support in place to facilitate technological commercialisation from academic R&D to industrial application, slowing down China's overall goal of green development.

Assessment

Green development is highlighted as one of the 13th

27 For more analysis and further recommendations on the financial incentives for SMEs, please see Key Recommendation 1 in the *Inter-Chamber Small and Medium-sized Enterprise Working Group Paper*.

28 2019 Government Work Report, State Council, 5th March 2019, viewed 9th April 2019, <<http://www.gov.cn/zhuanti/2019qglh/2019lhzfzgbg/index.htm>>

Five-year Plan's fundamental principles,²⁹ under which China has set stringent goals for itself. China aims to reduce its emissions per unit of gross domestic product by 40 to 45 per cent by 2020, compared to 2005 levels.³⁰ China also aims to increase its share of non-fossil fuel energy to 15 per cent by 2020. Under the plan, China is set to revamp traditional manufacturing industries to adopt green technologies that can, for example, optimise waste heat recovery, recycle industrial water and reduce heavy metal pollution, as well as substitute harmful and toxic materials. Other goals include the adoption of green manufacturing systems, the promotion of eco-conscious products, and the establishment of green supply chains and logistics systems. During the 21st EU-China Summit, the two sides announced plans to reinforce their cooperation on green finance in order to direct private capital flows towards a more environmentally sustainable economy.³¹

A major instrument used by the Chinese Government to address environmental issues has been the implementation and enforcement of new regulations that impose stricter environmental standards. In 2015, the revised Environmental Protection Law was implemented. It is considered the strictest environmental protection law in China's history, with more than 50 supporting measures having been enacted to secure its implementation.³² In 2019, the Ministry of Industry and Information Technology (MIIT) also issued a document to help establish a green data centre evaluation system.³³ The working group believes that these measures are beneficial but should be complemented by additional incentives that focus on the long-term development of new breakthrough technologies.

Developing incentives for new, clean technologies should be further encouraged at the industrial level. Often new, cleaner technologies can be expensive

29 *The 13th Five-year Plan for National Economic and Social Development of the People's Republic of China*, Xinhua, 17th March 2016, viewed 30th March 2019, <http://www.gov.cn/xinwen/2016-03/17/content_5054992.htm>

30 *Over 50 Supporting Measures are Set to Guarantee the Implementation of the New Environment Protection Law*, *Time Weekly*, 2nd May 2017, viewed 2nd April 2019, <http://www.time-weekly.com/html/20170502/37436_1.html>

31 *Joint Statement of the 21st EU-China Summit*, Delegation of the European Union to the UN and other international organisations in Geneva, 10th April 2019, viewed 19th June 2019, <https://eeas.europa.eu/delegations/un-geneva/60836/joint-statement-21st-eu-china-summit_en>

32 *Over 50 Supporting Measures are Set to Guarantee the Implementation of the New Environment Protection Law*, *Time Weekly*, 2nd May 2017, viewed 2nd April 2019, <http://www.time-weekly.com/html/20170502/37436_1.html>

33 *Guiding Opinion of Three Ministries on Strengthening Green Data Centre Construction*, MIIT, 12nd February 2019, viewed 9th April 2019, <<http://www.miit.gov.cn/newweb/n1146295/n1652858/n1652930/n3757016/c6638620/content.html>>





both to develop and operate, which slows down or even halts their formation. Putting targeted incentives in place could drastically improve the speed of the commercialisation of these technologies, from lab to market. Such incentive policies need not exclusively be in the form of monetary support (subsidies and tax reductions), but could also include creating regional R&D cooperation platforms, and establishing pilot and demonstration areas for environmentally friendly technologies.

Recommendations

- Establish regional cooperation platforms which are open to international companies with research operations, on an equal footing with Chinese companies.
- Provide foreign-invested enterprises with equal access to incentives and preferential policies on environmentally friendly technological development as domestic companies.
- Set up incentive programmes to facilitate the creation of pilot and demonstration areas for environmentally friendly technologies and their commercialisation.



5 4. Facilitate the Exchange of Scientists at all Levels as Part of a Joint Effort with the European Union (EU)

Concern

Despite some progress, particularly in free trade zones (FTZs) and some major cities, talent availability remains a major concern for international companies conducting R&D in China.

Assessment

In the European Chamber's *BCS 2019*, respondents stated that international talent acquisition was one of the top three issues hampering China's R&D environment, along with access to Internet services and IPR protection.³⁴ The Research and Development Working Group has taken note of China's efforts to alleviate administrative burdens and facilitate global talent mobility. In 2017 and 2018, a series of changes to the rules governing Chinese work permits and permanent residency status for foreigners were

introduced.^{35&36} As the MOST now has a larger role in recruiting foreign experts, after taking over certain duties from the SAFEA, the working group expects further improvements in the reduction of employment hurdles for foreign workers and greater attempts to include more young and senior foreign talent in the Chinese workplace.

Bearing in mind China's ambitious innovation goals, the Research and Development Working Group also recommends that any new policies relating to talent acquisition piloted in FTZs and newly-rebranded innovation zones that clearly benefit the innovation landscape be implemented nationwide as quickly as possible. Many of the top innovation-orientated enterprises operate outside the scope of these FTZs, which hampers their ability to access the talent they need to innovate at full speed.

Internal mobility programmes are commonly developed by MNCs to provide professional and personal opportunities for their employees. International mobility, exchanges and experimentation in different environments are essential for scientists and researchers to create and develop new products, processes and technologies. Short-term, joint R&D projects are a good way for junior staff to be trained as early as possible on all the essential equipment and processes used in labs the world over. Offering a favourable and stimulating environment for R&D talent is also essential to promote the emergence of innovative and creative ideas.

Recommendations

- Accelerate the pace of rolling out innovation-friendly reforms and implement policies nationwide after they are piloted successfully in FTZs.
- Provide more flexible visa application processes that allow foreign scientists to work in China on short-term, joint R&D projects, and make the process more transparent.

³⁴ *European Business in China Business Confidence Survey 2019*, European Union Chamber of Commerce in China, May 2019, viewed 19th June 2019, <<https://www.europeanchamber.com.cn/en/publications-business-confidence-survey>>

³⁵ *Full Implementation on New Foreigner Work Permit Policy*, Zhengzhou Weichi Foreign Investment Service Centre, 28th March 2017, viewed 30th March 2019, <<http://www.waizi.org.cn/law/18282.html>>

³⁶ *Opinions on Strengthening the Management of Permanent Resident Services for Foreigners*, *Xinhua*, 18th February 2016, viewed 28th March 2019, <http://www.xinhuanet.com/politics/2016-02/18/c_1118089053.htm>





5. Improve International Companies' Access to Data in China to Foster Digital Innovation and Enhance China's Innovation Capability

Concern

Due to China's strict control of both population and industrial data, international businesses find it increasingly challenging to access information they need for R&D.

Assessment

If China is to reach its economic and social development goals, a collective effort from both domestic and international players will be required. International companies, especially those that have R&D operations in China, can help the country develop core technology and increase its overall innovation capability.

China has experienced a sweeping digital transformation since introducing *the Internet Plus Initiative* in 2015.³⁷ *The Internet Plus Initiative* identifies the key role of the Internet in the digital transformation of agriculture, energy, finance, logistics, commerce, transportation, AI and public services.³⁸ On the back of this initiative, a series of digital innovation plans and regulations were released, including the Cybersecurity Law issued in 2016,³⁹ and the *Development Plan for the New Generation of AI*, issued in 2017.⁴⁰ Many key regions and cities started implementing the *Development Plan for the New Generation of AI* from 2018 onwards. For example, Shanghai proposed 22 AI-related measures aimed at talent development, open access to data, collaborative innovation, industrial agglomeration and financing support.⁴¹ Since AI can be applied cross-industry, the *Development Plan for the New Generation of AI* and the corresponding implementation rules in local governments are necessary to lay a foundation to define the regulatory scope and mitigate potential risks linked to the use of data. However, given that policymakers do not have direct industrial experience,

detailed implementation rules may still not be sufficient in identifying the source and owner of the industrial data for the purpose of R&D, leading to potential confidentiality issues in future. The working group believes that it is urgent to formulate a detailed guideline on industrial data access and data sharing in China.

From a technical perspective, AI, big data and the IoT are developing at an unprecedented pace across different industries. The availability of data therefore plays a significant role in whether innovation is successful or not. European enterprises have rich industrial expertise in data science, from data mining and aggregation to final analysis. The European experience can benefit China's digital industry and by extension most other industries that rely on digitalisation. The working group therefore suggests the establishment of an industrial data-sharing platform for all players, including both domestic and foreign MNCs and SMEs, to facilitate R&D in industries that rely on digitalisation. Despite the large variation in types of industrial big data, there is still consensus among all market players for R&D sectors in different industries on gaining data access, because of their shared dependence on information and the Internet technologies in modern society.

Recommendations

- Clearly define the scope and proportion for international joint research activities to encourage international businesses' participation in China's Internet Plus projects.
- Formulate a guideline on industrial data access for R&D purposes in China.
- Provide an industrial data-sharing platform for all players, including both domestic and foreign MNCs and SMEs.

37 *Promoting Action Guidance for Internet Plus*, State Council, 4th July 2015, viewed 22nd March 2019, <http://www.gov.cn/zhengce/content/2015-07/04/content_10002.htm>

38 Ibid.

39 *The Cybersecurity Law of the People's Republic of China*, National People's Congress, 7th November 2016, viewed 5th May 2019, <http://www.npc.gov.cn/npc/xinwen/2016-11/07/content_2001605.htm>

40 *The Development Plan for the New Generation of AI*, State Council, 20th July 2017, viewed 5th May 2019, <http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm>

41 *Implementation Measures for Accelerating the High-quality Development of Shanghai Artificial Intelligence*, Shanghai Municipal Commission of Economy and Informatisation, 17th September 2018, viewed 5th May 2019, <<http://sh.people.com.cn/n2/2018/0917/c134768-32066501.html>>





Abbreviations

AI	Artificial Intelligence
BCS	Business Confidence Survey
BRF	Belt and Road Forum for International Cooperation
CM	China Manufacturing
CNY	Chinese Yuan
EU	European Union
EUR	Euro
FIL	Foreign Investment Law
FTZ	Free Trade Zone
HNTE	High and New Technology Enterprise
ICD	Innovation Cooperation Dialogue
IoT	Internet of Things
IP	Intellectual Property
IPR	Intellectual Property Rights
MIIT	Ministry of Industry and Information Technology
MNC	Multinational Corporation
MOF	Ministry of Finance
MOST	Ministry of Science and Technology
NPC	National People's Congress
NSFC	National Natural Science Foundation of China
OECD	Organisation for Economic Co-operation and Development
R&D	Research and Development
SAFEA	State Administration of Foreign Experts Affairs
SAT	State Administration of Taxation
SME	Small and Medium-sized Enterprise
S&T	Science and Technology
TIER	Technology Import and Export Administrative Regulation
WIPO	World Intellectual Property Organization