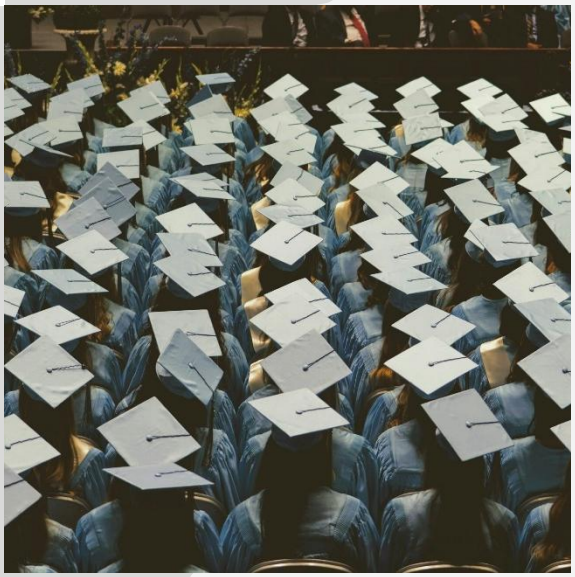
CKN China Kennisnetwerk

Changing Perspectives

Towards Conditions for Sustainable EU-China Academic Collaboration

A CKN Report



Yuzhuo Cai

Cong-rui Qiao

Peter Gill

Cristina Pinna

Wenqin Shen

Lin Tian

Coordinated by Marijk van der Wende

March 2025

Foreword

This study was carried out between April and December 2024. A period characterized by uncertainty, a word frequently used in this report indeed. However, with the geopolitical changes ongoing since early 2025, we may consider uncertainty as an understatement.

We are currently experiencing what seems to be a serious make-over of the rules-based international order, as we've known it for decades. Perspectives are changing even more than expected. Europe's security environment is rapidly changing, with consequent challenges in formulating conditions for sustainable EU-China academic collaboration. And likely for collaboration globally. Recent US freezing of research funding and withdrawals from global commitments, a changing transatlantic relationship, and China's technological breakthroughs in AI, put even more pressure on the EU.

This enhanced uncertainty, however, doesn't detract from the rationales and aims of this study, which remain relevant. Yet the context is becoming even more complex and unpredictable, with even more, still open, questions as a result.

How will the shifting centres of gravity in scientific, soft, and hard power affect their ability to attract and nurture talent? How will this affect the volume and direction of international flows of students, scientists, data, and funding? To what extend and how will the nature of international partnerships, the protection of academic freedom, and safe areas of research collaboration be sustained? How will future global scientific and technological leadership be shaped in a multipolar world? And (how) would this influence China's long-term perspective on scientific collaboration with the EU?

Obviously, these further questions could not be addressed in this report.

However, this foreword is not intended to be a total disclaimer. Apart from the rationale and aims of our study, also our considerations and recommendations remain intact. Think long-term, embrace complexity, monitor, invest, and strengthen capacity in EU context.

We wish to defend the value of academic collaboration to respond to the rights, needs, and interests of future generations worldwide and to recognize its crucial role in (re)building bridges between them for a shared and sustainable future.

Marijk van der Wende

Utrecht, 21 February 2025.

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The Netherlands Institute of International Relations 'Clingendael' is a leading independent think tank and academy on international relations. The LeidenAsiaCentre is an independent research centre affiliated with Leiden University. It serves as a hub for applied academic knowledge on modern Asia.

About the authors

Dr. Yuzhuo Cai is a Professor in the Department of Education Policy and Leadership and Co-Director of the Global Research Institute for Finnish Education at the Education University of Hong Kong (EdUHK). Prior to joining EdUHK, he spent over two decades at Tampere University in Finland. He co-edited a special issue of *JSIE* titled *Rethinking EU-China Higher Education Cooperation in a Dynamic Global Environment*, published in 2025, alongside Cristina Pinna and Marijk van der Wende.

Dr. Cong-rui Qiao is the founder of Law4Sustainability, a research-for-application initiative driving culturally sensitive ESG compliance strategies. She holds a PhD in Human Rights Law from Utrecht University. Her recent book, Chinese Rules and Procedures for Addressing Mass Actions: A Juridification Account (2024, Springer), offers a novel perspective on government-citizen interactions in contemporary China.

Peter Gill, MSc studied mechanical engineering and business economics and has worked in Shanghai in the mining industry and Taipei in offshore wind. After 25 years in corporate roles, he worked at Delft University of Technology from 2019-2024 as Policy Advisor China. He is the author of West Meets East: Understanding Chinese Speaking Societies. He currently works in renewable energy.

Dr. Cristina Pinna is a Marie Sklodowska-Curie Fellow at the University of Groningen. Previously, she served as Senior Policy Advisor for the UN Development Programme (UNDP) in China and was also an EU-China Science and Technology Fellow hosted at Peking University.

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The Netherlands Institute of International Relations 'Clingendael' is a leading independent think tank and academy on international relations. The LeidenAsiaCentre is an independent research centre affiliated with Leiden University. It serves as a hub for applied academic knowledge on modern Asia.

Her current research focuses on China's soft power, particularly in the context of the EU-China strategic partnership.

Dr. Wenqin Shen is an associate professor of Higher Education at Peking University. His authored and co-authored publications focused on international academic mobility (especially the mobility of college graduates, doctoral students and postdocs), doctoral career trajectories

Dr. Lin Tian is an associate professor at the Research Institute of Educational Science, Hunan University, China. She holds a PhD degree from Shanghai Jiao Tong University and performed part of her PhD research at Utrecht University. Her current research interests include world-class universities, global common goods, and internationalisation of higher education.

Prof. dr. Marijk van der Wende is Distinguished Faculty Professor of Higher Education at Utrecht University's Faculty of Law, Economics and Governance. Her research focuses on the impact of global trends and international developments on higher education and research systems. Her work on China includes: M. C. van der, William C. Kirby, Nian Cai Liu, Simon Marginson (eds.) (2020). China and Europe on the New Silk Road. Connecting Universities Across Eurasia. Oxford University Press.

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Table of Contents

Introduction

This project was carried out between April and December 2024, guided by the following rationale, aims, and key questions.

Rationale:

- Given geopolitical tensions which have deteriorated EU-China collaborations on the one hand and the need to continue academic collaboration for the sake of finding solutions to global challenges on the other,
- clearly a new balance and renewed conditions for sustainable EU-China academic collaboration should be found.
- To that end it is crucial to understand China's mid-long-term perspective and policies at both governmental and institutional (university) levels.

Aims:

- To contribute to a better understanding of China's perspectives and policies at both governmental and institutional (university) levels.
- As to inform Dutch policy makers and social partners in their decision making and strategic planning in academic collaboration with and talent recruitment from China.
- It will do so by taking the EU policy context ("open strategic autonomy") and the current EU-China agreements into account.
- While looking at policy directions of some major partner countries and relevant players within the EU,
- Focusing on the balance sought between both challenges and opportunities in academic collaboration with China.
- And frameworks/directives guiding towards conditions for sustainable EU-China academic collaboration.

Key questions:

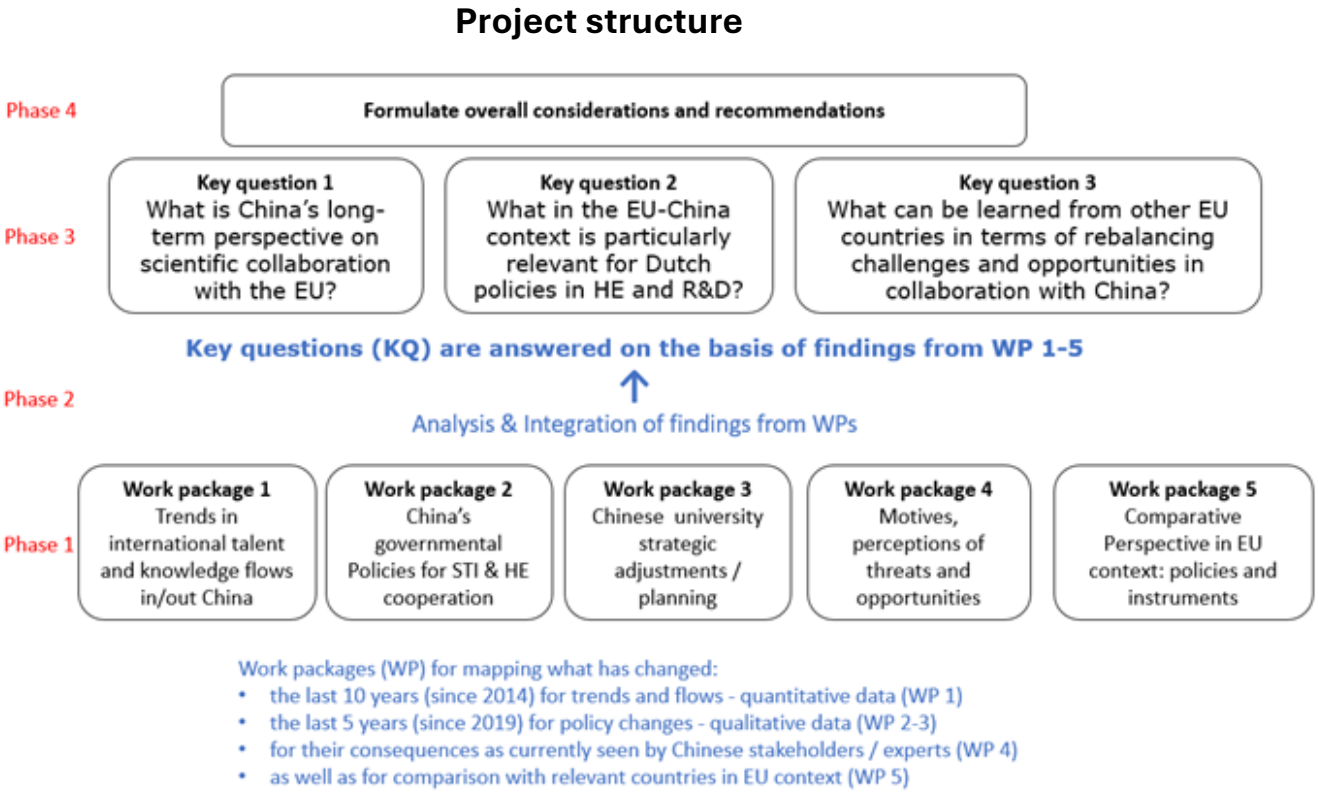
1. What is China's long-term perspective on academic collaboration with the EU?
    - What motives, vision, and governmental policies are guiding Chinese universities and research organisations?
    - How do Chinese universities perceive and analyse the changing internal conditions and external global dynamics, the changes in talent flows and knowledge networks?
    - How are they planning to operate in the changing context?
2. What in the EU-China context is particularly relevant for Dutch policies in HE and R&D?
    - On what basis: bilateral /multilateral?
    - And concerning what levels of education (ba/ma/PhD) and types of R&D (fundamental / applied)?
3. What can be learned from other EU countries in terms of rebalancing challenges and opportunities in academic collaboration with China?
    - In particular the practical frameworks (directives) that could guide towards conditions for sustainable EU-China academic collaboration.

Project structure: methodology and planning

In order to answer these three Key Questions (KQ1-3), five work packages (WP 1-5) were defined with the aim to gather data on:

WP1: Actual and expected changes in talent flows and knowledge networks (quantitative data available from international sources)
WP2: Governmental policies for science, technology and higher education in China (document and web-analysis)
WP3: Consequent strategic adjustments / planning by (selected) Chinese universities (document and web-analysis)
WP4: Motives, visions and perceptions of threats and opportunities which are driving these (survey and interviews)
WP5: Comparative Perspective in EU context: policies and instruments in relevant EU countries (literature review)

These WPs served as the basis to answer the key questions (KQs) though the following steps:



Further details on methodology, including data sources, gathering, and analysis, are provided in the individual WP reports.

Key Question (KQ) reports were written on the basis of the various WP reports, as indicated in the introductions, with additional material from previous or broader research.

Whether written by individual authors or in duos, all draft reports were cross-reviewed by authors involved in other WPs and discussed with the entire team.

The various **phases** were carried according to the following planning:

Phase 1	Gathering evidence for work packages drafting WP reports	April – June 2024
Phase 2	Compare findings - cross reviewing draft WP reports finalisation of reports.	June – July 2024
Phase 3	Analysis & Integration of findings from WPs as to answer the 3 Key Questions	August – September 2024
	Interim reporting meeting on WPs & initial answers to KQs	*8 October 2024*
	Drafting KQ reports - cross reviewing draft KQ reports finalisation of reports.	
Phase 4	Formulate overall conclusions (considerations) and (provisional) recommendations	November 2024
	Final reporting meeting on KQs and (provisional) recommendations	*10 December 2024*
	Finalisation of recommendations	December 2024

8 hybrid full team **meetings** were held between April and November 2024. In addition multiple bi-or multilateral meetings took place online between the individual authors of various WP of KQ reports. 2 reporting meetings were held with CKN and Ministries (October and December).

A study with these aims can only be carried out in close collaboration between Chinese and European experts . Therefore the **team** included four Chinese and three European researchers, all with all substantial knowledge on and experience in EU-China collaboration in higher education and R&D.

They worked closely together as a team with great scholarly and intercultural skills, complementary knowledge and perspectives. Their open mind to different views and scholarly styles greatly benefited the joint analysis of data and mutual review of draft reports.

This resulted in multiple cross-sectional references across WP and KQ reports, for which (WP1-5) and (KQ1-3) is used as coding.

This **report** contains consecutively the reports on WP1-5, followed by KQ1-3, concluded by an overview of the outcomes of the study, consequent considerations and recommendations.

1. WP1: Trends in international talent and knowledge flows in/out China

Peter Gill & Marijk van der Wende

This section reports on WP1, describing and analysing the actual changes in talent flows and knowledge networks since 2014 and the expected changes therein.

1.1 International talent flows: student mobility

1.1.1 China in the changing global student mobility pattern

China has been sending the world's largest number of students abroad for decades while growing itself more recently as a destination for international students. The Covid pandemic interrupted both in and outgoing flows in 2019. The Chinese government has not published official data on student mobility since.

According to previous data from the Chinese Ministry of Education, from the reform and opening up of China in the 1980s, the number of Chinese students having studied abroad is approximately 8 million, and the number of students returning to China after completing their studies constitutes 5-6 million (CCG, 2023; Zhou, 2023). China itself is becoming a more popular study destination for mostly undergraduate students from developing countries in the Global South, BRICS and Belt and Road countries.

Student mobility worldwide seems to be getting back to pre-Covid levels, but the movement to and from China is still to some extent uncertain. This is largely due to geopolitical tensions, which have led to stricter visa rules in top destinations like the USA, UK, Australia, and Canada (Mok et al, 2024; Sharma, 2024a). Although the US remains a favoured choice, particularly for doctoral students seeking quality education and job prospects, uncertainties loom due to upcoming elections in the USA in November 2024 (Ross, 2024).

1.1.2 Student Mobility out of China

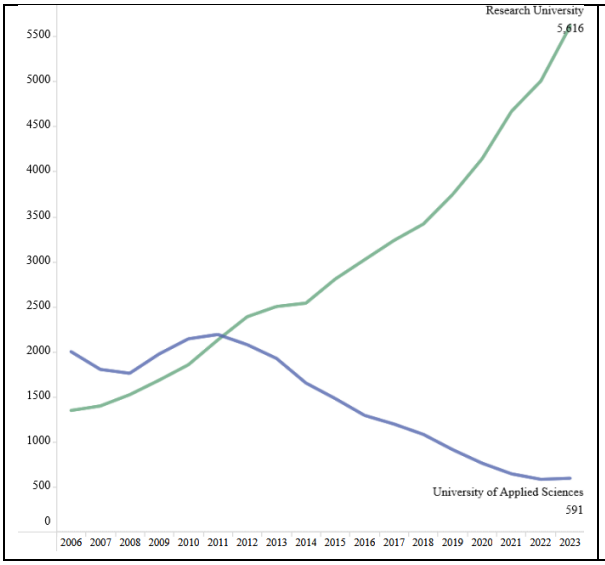
China remains the world's largest source of international students, with over 1 million Chinese students studying overseas in 2021. Yet China's outbound student mobility has been changing significantly over the last five years, due to reduced overseas opportunities, a weaker Chinese economy, and high graduate unemployment. Notably popular Western countries, drastically reduced the number of study visas for Chinese students (the US -45% from 2021-2022).

Study abroad in China is gradually "entering a new stage of steady development", with a more diversified range of destinations, including continental European countries and "Belt and Road

countries" such as Vietnam and Uzbekistan (CCG, 2023). Concerns over proximity, affordability, and safety lead Chinese students to select regional destinations like Singapore, Hong Kong, Malaysia, Japan, and Thailand for undergraduate studies (ICEF, 2023). Hong Kong ranks third for graduate and doctoral studies, trailing only the UK and US.

European countries including the Netherlands, Spain and Ireland have seen increases in numbers of Chinese international students as US figures fall. These countries are gaining appeal as study destinations due to lower study costs and better visa conditions (Nature Index, 2023). Germany and France received 40,000 and 29,000 Chinese students respectively in 2022/23 (CCG, 2023).

***Figure 1**: Chinese students in the Netherlands (Source: Nuffic)*



- The number of Chinese students in the Netherlands increased by 48% over the last decade to 6,207 in 2023, of which the large majority studies at a research university.
- The top four fields of study in 2023 – 2024 were:
  1- Engineering and natural sciences
- 2- Economics
- 3- Language and culture
- 4- Behavioural & Social Sciences
- Engineering is the fastest growing field of study for the second consecutive year.
- In 2023-2024 China is the 4th largest country of origin of international students in the Netherlands

In the Netherlands, the rise in the number of Chinese students increased by 48% over the last decade, but is outpaced by that of EU/EEA students (notably from Germany which ranks first for more than a decade with over 20,000 students). Therefore and despite the increase, Chinese students dropped from 2nd to 4th place over the last decade. Currently, Chinese students rank 9th for bachelor's and 2nd for international master's students after Germany (Nuffic).

Although they can rise differential fees, Dutch universities rely less on Chinese master's fees compared to those in the UK (Jack, 2024). But like in the UK and the US, also for Dutch research universities, they represent an important source for STEM (science, technology, engineering, mathematics) studies, ranking 1st as international master students in engineering (the fastest growing field of study for the second consecutive year) and 2nd in natural sciences.

In terms of study choice, Chinese students continue to choose mostly STEM fields to study abroad, while the popularity of choosing business majors continues to decrease (CCG, 2023).

1.1.3 Student Mobility into China

China is clearly loosing its appeal as a study destination for Western students. The number of USA students in China dropped from 12,790 in 2014 to 211 in 2021/22 (IIE, 2024). And although China would aim to attract 50,000 US students over five years, it was estimated that only some 350 were studying there in 2023 (Sharma, 2024b). The number of German students going to China with German scholarships was halved from 2014 to 2022 (DAAD 2024).

No precise data are currently available for the number of Dutch students studying in China. The number is estimated to be declined to around 150 (among which 30 in STEM) in the beginning of 2024[1].

While being in decline as a destination for Western students, China is becoming a more popular study destination for students from BRICS, Belt and Road, and developing countries in the Global South. Notably from Africa from which China attracted 81,562 students in 2018 and boosted its appeal further providing 50,000 scholarships for African students. By 2020, China was the second most popular destination for African students, after France. They are drawn to China due to its relative affordability compared to North America or Europe, along with access to superior educational resources (Nature Index, 2024). The China-ASEAN Double 100,000 Students Mobility Plan resulted in around 79,000 ASEAN students, 16% of all international students in China (Lim, et al, 2022).

1.2 International talent flows: PhD and researcher mobility

PhD students/doctoral candidates[2] are an important source of talent for a country's R&D performance.

Western countries are recruiting international talent, notably PhDs, due to declining populations and low domestic interest in STEM fields. To illustrate: in the Netherlands 24% of master degrees are in STEM (UNL, 2024), while in China this is 41% (MoE, 2019). Also given its size, China used to be a key source for PhD's in STEM.

In the Netherlands, where CSC scholarship conditions for Chinese PhD's are under scrutiny (HOP, 2024), their proportion in the PhD population is relatively moderate, only in a few cases exceeding 20%, yet indicating potential risk of dependency (Hooghe, & Martin, 2024). As the demand for STEM graduates for R&D in high-tech industry is still growing, contingency plans are needed to offset the recent decrease in Chinese PhD students (Sharma, 2024c).

China's own position as a fast growing player in global science and R&D (see 3) also relies on attracting and retaining talent. It stimulated its top universities to become "world-class"(see

[1] These data are according to Dutch sources, Chinese MoE claims around 800. Differences may be explained by the definition of "students". Chinese statistics often include students in short and/or non degree courses, such as language courses and summer schools.

[2] PhD/doctoral candidates are under researcher mobility as they are considered research staff/employees in the Netherlands.

WP3) and to build up their capacity in doctoral education with the aim to retain more Chinese PhD students, who were still in large numbers going abroad before Covid (Li et al, 2021). Recent data indicate that more overseas Chinese students are returning, but not its top talent, and that China struggles to attract non-Chinese top global talent (Groenewegen-lau & Hmaidi, 2024).

Approximately 50% of the 2,000 European researchers working in China before Covid left the country between 2020-2022 and are unlikely to return. Both researchers in China and those already back in Europe perceived a slow-down in Sino-European collaboration, due on only to lack of international mobility caused by Covid, but also to the general political atmosphere and perceptions in China (EC, 2022).

Alongside the exodus, joint collaboration between Chinese and European researchers is also in decline within Horizon Europe. In fact, Chinese involvement fell to a historic low: EU projects with at least 1 Chinese partner in 2023 is 40% of what is was in 2015 (Science Business, 2024).

Recently enhanced national regulations on data security and institutional restrictions to academic freedom would not help to attract Western top researchers, or those of Chinese descent working in the West to move back to China (unless perhaps if conditions in their current country would deteriorate), while Chinese returnees usually publish more and better and are instrumental in linking China to the global science network (Cao, et al, 2020).

The question remains to what extent and how fast China can make up for this loss of talent, by increasing recruitment from regional sources in ASEAN countries, the Global South, or by following its Belt and Road strategy.

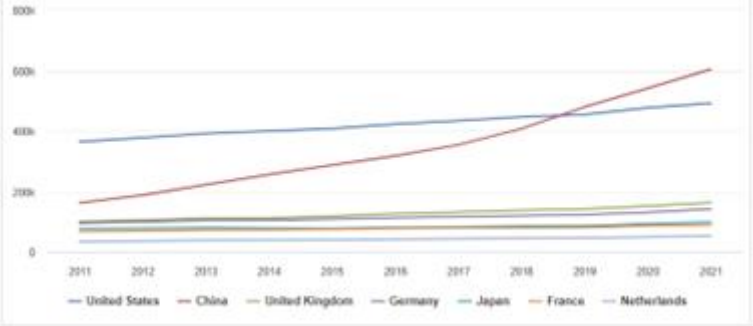
1.3 Knowledge flows: publications and collaborative research

Over the last decade, China's scientific growth as measured in the number of publications has overtaken all other countries including the EU and the US, even in some measures of most-cited papers (Van der Wende et al, 2020; Xin, 2023; Marginson 2024a).

China overtook the USA in number of publications in 2018 and the EU in 2021. It is clear that *Governments in the EU and US should meanwhile realise that China is no longer only catching up. In many ways it has already become a world leading nation in science* (EC, 2021).

It's output growth is above world average in all domains and it now produces the largest volume of international publications in science and engineering (Rathenau, 2024).

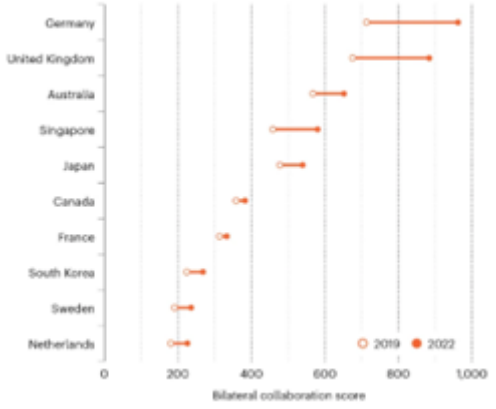
***Figure 2**: China's development in the number of publications compared (source: Rathenau Institute)*



China is the largest or second largest collaborator for the United States, Australia, Germany, Japan, South Korea, Singapore and many other countries.

During its growth period, China has enormously benefited from collaboration with notably Western countries. Yet collaboration patterns are changing; internationally co-authored publications involving China and the US are on the decline, while increased collaboration between 2019-2022 is noted with European countries, notably Germany and the UK (Xin, 2023; Nature Index, 2023).

***Figure 3**: Bilateral collaboration between China and leading collaborators (source Nature Index).*



As shown in figure 3, collaboration between China and the Netherlands increased slightly those years, although not as much as during the 2010-2020 period, during which it quadrupled. The three domains in which the Netherlands and China collaborated the most in 2020 were: environmental sciences, multidisciplinary materials sciences, and astronomy and astrophysics (Rathenau, 2024).

The US and Europe represent those countries where scientific output is growing slower than the world average, while their GDP is above global average. In contrast, while China is leading among the countries where growth in scientific output is growing faster than global average, while GDP is around global average (Marginson, 2024b).

Countries in the latter group, the BRICS, are thus on the rise and China's collaboration with these partners as well, although its growing cooperation with India still represents only 10% of its collaboration with the USA, even after the recent decline (Danell, 2024).

China's growth is not only reflected in the volume of publications, but also in its citation impact score, which exhibits the strongest development of all the reference countries. In 2020, China was just below the world average. The Netherlands is among the world leaders, fourth after Singapore, Switzerland and the United Kingdom (Rathenau, 2024).

1.3.1 Rankings

China's growth in global science and R&D performance over the last decade is reflected by the rise in the number of Chinese universities ranking in the world top 500, which is now close to 100 (Nuffic, 2024).

A more precise look at data from the Leiden Ranking (CWTS, 2024) reveals that over the last decade, China has overtaken, or actually replaced, the US and the EU in the top 25 institutions in key STEM fields, measured in scientific impact in the top 1% of publications. During this last decade, US universities disappeared from the top 10, Europeans even from the top 25 in these fields (with the exception of ETH Zurich), but are still holding these places in social sciences and humanities (Marginson, 2024a).

It should be noted that rankings are by and large based on citation indexes, known for all their biases regarding disciplines, languages and publication traditions. An alternative approach, notably developed by CWTS Leiden relies more on open data and thus include more than only the top journals. Yet it is expected that: "*Despite the quality questions, the numbers alone will push China up the rankings lists and will continue to stoke the fires of those alarmed by the rise of China in world science, technology and innovation circles, and perhaps put rankings further into question*" (Wagner, 2024).

1.4 Further developments: towards decoupling and multipolarity?

What further changes can we expect in this fast changing world? New patterns are emerging in flows of talent, funding, and knowledge partnerships.

International research collaborations between China and Western countries, are shifting due to geopolitical tensions. Sino-American collaborations have clearly declined and apart from the trends described above, also a sharp decline in Chinese reliance on US science as measured by citations has been observed (Greenfield, 2024).

Contrary to the changes in the US-China relationship no clear evidence (in bibliometric analyses) was found as yet for a decoupling between EU and China, but perhaps for selective decoupling (Marini, forthcoming). As presented above: decreased collaboration in the context of EU-funded research (Horizon Europe), but increased with individual EU countries, notably

Germany and the Netherlands, although the previously strong growth in collaboration between China and the Netherlands is slowing down.

Meanwhile, China's top universities seem to be loosing connection with world's leading research-intensive universities. Chinese top universities (C9) were absent as signatures of the 2024 Berlin Statement on their the mission in global collaboration and excellence (Berlin Statement, 2024), while they joined the 2013 Hefei statement hosted in China.

China is now forming stronger research ties with ASEAN countries and BRICS nations.

These changing patterns in collaboration could point to the emergence of a multipolar science world, i.e. a decoupling from the Western science systems.
Alternatively, China may remain a major driving force globally, influencing both OECD / Western countries, as well as the BRICS and Global South widely, considering the fact that its output growth is above average in all domains, that it has the largest number of researchers worldwide, and it is investing more in R&D than its competitors (Marginson, 2024; Rathenau, 2024).

Tsinghua, Peking and Zhejiang University, for instance, receive up to € 3 to 5 billion in Governmental funding annually (Baidu News, 2024) and are leading the way in key technologies for global sustainability goals. Tsinghua University for example, is in the process of establishing the World Society of Carbon Neutrality.

It is too early to conclude on multipolarity or decoupling (see KQ2).

Experts postulate that: *it is likely that China itself will continue to shape science globally. Overall the most likely scenario is that from a legacy of mostly Western dominated activity into a Sino-Western dominated one. In this passage the EU and its funding opportunities seem to remain one of the best partners for China and China (and its funding opportunities) one of the most interesting ones still to be fully explored for the EU* (Marini, forthcoming).

And also that while China may presently lack the capacity to compete with the US and other global hubs in attracting global top talent, Western nations must not grow complacent. Particularly in critical STEM disciplines, where China possesses a vast reservoir of talent, vigilance is imperative. These fields, encompassing AI, nano, quantum, and semi-conductors, are arenas where geopolitical tensions intensify global competition. China may be successful in attracting talent regionally and from less developed countries and top researchers of Chinese descent currently living and working in the West may yet decide to move back if their current working environment deteriorates further (Groenewegen-Lau & Hmaidi, 2024).

Indeed the ongoing geopolitical events, resulting in enhanced data and knowledge security regulations and enhanced visa policies, further deteriorate conditions for academic collaboration and mobility, especially essential conditions as academic freedom, open science and data reciprocity.

Yet collaboration globally and with China in particular remains pivotal for solving global challenges and SDGs, in domains like climate change, energy transition, sustainability, and health, among others.

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2. WP2: China's Policies on international Science and Technology and Higher Education co-operation particularly towards the EU: Middle and Long-Term

Wenqin Shen , Yuzhuo Cai & Jialu Wang

2.1 Introduction

China-Europe co-operation in Higher Education (HE) and Science and Technology Innovation (STI) has a long-standing history, establishing a robust foundation (Cai, 2019; Zheng & Cai, 2018). However, since 2019, geopolitical events and the COVID- 19 pandemic have significantly altered this relationship (Cai, 2023) resulted in threats and uncertainties in future co-operation. This report examines changes in China's policies and attitudes towards Europe in HE and STI co-operation since 2019, focusing on three questions: (1) Have China's policies and attitudes changed in the past five years? (2) How have geopolitical factors influenced these changes? (3) What is China's long- term stance on China-Europe co-operation?

Using qualitative research, the study analyses pertinent policy and programme documents related to higher education and scientific and technological innovation issued by the Chinese government, news about China-Europe co-operation, and comments from government officials from the official websites of the Ministry of Education (MoE), the Ministry of Science and Technology (MoST), and the National Natural Science Foundation of China (NSFC). In addition, we also consult with officials responsible for China-Europe science and education co-operation within the Chinese government.

2.2 Changes in China's international co-operation policies towards the EU

Despite the evolving landscape of EU-China relations, our analysis shows that China has endeavoured to sustain and even prioritise its co-operation with Europe in science, technology, and higher education, especially due to heightened tensions with the US. The co-operation emphasises deepening technological and cultural exchanges, as outlined in the "China-EU Science and Technology co-operation Agreement" and the "China's Policy Paper on the European Union" (MoST, 2019). This partnership is driven by mutual benefit, particularly in scientific and technological innovation. Regarding higher education co-operation, a stronger willingness to deepen EU collaboration, as visible changes of China’s strategies in the past five years, can be observed in the following three areas.

2.2.1 International student mobility

China aims to expand student exchanges with Europe, advocating two-way study abroad and highlighting socio-cultural benefits. Amidst the challenging situation in EU-China relations, China considers student exchange and mobility an important means to maintain cultural exchange. For instance, the "China's EU Policy Paper" emphasises enhancing student and scholar exchanges and improving education policy communication (State Council of PRC, 2018). The Ministry of Education's "Opinions on Accelerating and Expanding the Opening-Up of Education in the New Era" underscores China's commitment to openness and the importance of student mobility for cultivating international talent (MoE, 2020). During President Xi Jinping's visit to France in 2024, he proposed increasing French students in China to over 10,000 within three years and doubling youth exchanges (State Council of PRC, 2024). Minister of Education Huai Jinpeng supports closer co-operation between Chinese, French, and European universities, including joint training and international summer schools. China promotes language and cultural exchanges, inviting more European youth to participate in Chinese education programmes and facilitating opportunities for Chinese youth to learn European languages (MoE, 2024).

Furthermore, China promotes mutual recognition of credits and joint degree programmes with foreign institutions to expand the global impact of online education (State Council of PRC, 2020). While credit recognition is challenging due to varying academic systems, China encourages qualified universities to pursue these initiatives, focusing on improving education quality (Yang et al., 2022).

Although some European universities stop accepting incoming students funded by the China Scholarship Council from the sensitive majors, there is no evidence that the Chinese government does not support Chinese students studying in Europe. We believe that as it becomes more difficult for Chinese students to study in the United States, the Chinese government will increase its support for Chinese students to study in European countries.

2.2.2 Joint educational programmes

Regarding joint education programmes, China has attached more importance to vocational education, aiming to deepen vocational education co-operation with Europe through the "Belt and Road" initiative, transitioning from adopting European models to mutual development and sharing. The 2021 "Opinions on Promoting High-Quality Development of Modern Vocational Education" highlighted vocational education's role in national education and human resource development, aiming for a world-leading level by 2035 (State Council of PRC, 2021). As of July 2022, the number of Sino- foreign co-operative vocational colleges and projects had reached 1,084 (50 institutions, accounting for 22% of all co-operative education institutions, and 1,034 projects, accounting for 46%). This represents an increase of 88.19% compared to 2012 (CEAIE, 2023).

A significant example is that the Ministry of Education has partnered with leading industry companies from Germany and other European countries to implement the Sino-German

Advanced Vocational Education (SGAVE) project, drawing on the technical and experiential reserves of the "dual system" talent cultivation model used by industry leaders in these countries. This to some extent reflects the Chinese government's strategy in using use vocational education as a key breakthrough for expanding openness in both education and other fields in the new era (MoE, 2024 March). It aims to provide the world with replicable and promotable Chinese solutions and wisdom, enhancing the supply of international public educational products through mutually beneficial cooperation (MoE, 2022 July).

2.2.3 The internationalisation of research activities

China prioritises the EU in its internationalisation of research activities, focusing on new technologies such as artificial intelligence and global issues like climate change, while aiming to create a more open and inclusive funding mechanism, primarily through the NSFC. China-EU scientific and technological co-operation has been a core component of the China-EU Comprehensive Strategic Partnership, progressing steadily (MoST, 2019). For instance, during the 2023 China-EU Summit, President Xi Jinping defined the EU as China's key partner in economic and trade co-operation, priority partner in scientific and technological co-operation, and trusted partner in industrial and supply chain co-operation (State Council of PRC, 2023). This underscores the EU's critical role in China's research activities. There is already evidence that, while scientific research collaboration between China and the United States has been declining in recent years, China's collaboration with Europe has not been declining and has even been on the rise, suggesting that Europe may be filling the gap left by the United States (Aghion et al, 2023).

China especially encourages scientific research co-operation between Chinese universities and EU universities and research institutions. Over 40% of the academicians of the Chinese Academy of Sciences and the Chinese Academy of Engineering, and nearly 70% of the recipients of the National Science Fund for Distinguished Young Scholars are concentrated in universities, demonstrating a strong capacity for innovation (MoE, 2022). Additionally, the mutual understanding established in the field of higher education co-operation is deeper than in other fields (d'Hooghe et al., 2018). In June 2024, the Ministry of Education of China and the French Ministry of Higher Education and Research jointly held the first Sino-French Education Development Forum in Paris on the 21st, where Minister of Education Huai Jinpeng explicitly expressed the expectation for universities in both countries to strengthen co-operation in basic research, technological innovation, and industry (MoE, 2024). Among European countries, China and Germany have particularly close scientific research cooperation. Sino-German Center of Research Promotion (Chinesisch-Deutsche Zentrum für Wissenschaftsförderung, referred to as CDZ) is a scientific research funding agency jointly established by the National Natural Science Foundation of China and the German DFG. Since April 2023, CDZ has organised five bilateral seminars in the fields of artificial intelligence, nanoscience, and carbon dioxide, which shows that the scientific research cooperation and exchanges between the two countries are still active.

2.3 Geopolitical factors influencing changes in China's international co-operation policies towards EU

The report of the 20th National Congress of the Communist Party of China highlighted that a new round of scientific and technological revolution and industrial transformation is deeply underway. It also noted the profound impacts of the pandemic, the rise of anti- globalisation sentiments, significant increases in unilateralism and protectionism, sluggish global economic recovery, intensifying global issues, and the world entering a new period of turbulence and transformation (State Council of PRC, October 2022). This underscores that China's international co-operation policies on science, technology, and higher education, for example with the EU, are influenced by global factors, particularly geopolitics.

While there is a general trend of rising right-wing parties and increasing caution towards co-operation with China in the West, China appears to be more discerning in understanding the differences within Western countries and tailoring its strategies accordingly. For instance, China strategically opted for different approaches towards the US and the EU and tends to pursue bilateral strategies with individual EU member states rather than a broad EU co-operation strategy.

The US-China trade war and technological competition, which began in 2018 and escalated in the following years, have had a profound impact on China's international co-operation policies (Wang & Ran, 2019). The Trump administration tightened visa restrictions for Chinese students, including measures such as shortening the validity period of visas for graduate students in high-tech fields (Allen & Ye, 2021). The current President Joe Biden has implemented controls on semiconductor exports to China, leading to increased bilateral tensions (Nikkei Asia, 2023).

While China is ready to confront tensions with the US across various sectors, our analysis shows that Chinese government has a strong willingness to maintain and even thrive collaborations with Europe. The government may expect that increasing co-operation with Europe helps fill the research opportunity gaps caused by the deterioration of US-China relations (Banik, 2019).

Regardless of China's willingness, the hard reality is that the geopolitical tension between the U.S. and China, along with the COVID-19 pandemic and the Ukraine- Russia war, has accelerated the rise of scientific nationalism within the EU (Moscovitz & Sabzalieva, 2023; University World News, 2024). Scientific nationalism refers to the use of various tools by national governments and EU institutions to protect sensitive knowledge and technologies from foreign exploitation (Sá & Sabzalieva, 2018). China- Europe science, technology and higher education co-operation inevitably faces challenges from geopolitical tensions and knowledge security. In addressing the shifting geopolitics of academic collaboration, China' strategies towards the EU tend to focus on bilateral agreements with individual member states.

2.4 China's middle and long-term strategies towards international co-operation with the EU

Geopolitical and pandemic influences have led to complex changes in China-EU higher education co-operation (Cai, 2023). In this phase, contradiction and development coexist as key characteristics of this co-operation. In the post-pandemic era, global economic turbulence, the decoupling of U.S.-China relations, and the rise of scientific nationalism are expected to create obstacles for China-Europe co-operation in higher education and science and technology. Differences in cultural traditions and ideologies may amplify these external factors, leading to an overly cautious attitude from Europe towards co-operation with China, making truly mutually beneficial co-operation difficult to achieve (Cai, 2023). While there are no explicit policies clearly outlining China's middle and long-term strategies towards international co-operation with the EU in science, technology, and higher education, we have identified three tendencies of the Chinese government regarding co-operation with Europe.

First, in contrast to Europe's increasing caution towards co-operation with China, the Chinese government has maintained a firm and positive stance. For instance, during a 2024 meeting with the Dutch Prime Minister, President Xi Jinping emphasised the future of China-Europe relations. He asserted that in a deeply interconnected and interdependent world, maintaining openness and co-operation is essential for a win-win outcome. China's policy towards Europe will "remain continuous and stable," viewing Europe as an important pole in a multipolar world and a key partner (MoE, March 2024). The evidences show that China is likely to continue the strategies set out in the "China's EU Policy Paper," which states that despite differing historical cultures, social systems, and development stages, there is no fundamental strategic conflict between China and Europe, and their commonalities far outweigh their differences. The policy emphasises the importance of dialogue over confrontation, enhancing mutual understanding, and building trust through equal dialogue. It aims to maximise consensus, accommodate each other's reasonable concerns, and manage differences and frictions constructively (State Council of PRC, December 2018).

Second, China aims to position itself as a globally influential country in science, technology, and education. According to the Outline of the 14th Five-Year Plan and the Outline of the Long-Term Plan for 2035 announced in 2021, China will implement a more open, inclusive, mutually beneficial and shared international science and technology cooperation strategy and more actively integrate into the global innovation network. China will increase the opening-up of its national science and technology plans, launch a number of major science and technology cooperation projects, and establish a global scientific research fund(National Development and Reform Commission of the People's Republic of China,2021). President Xi Jinping emphasised that China has established the world's largest education system, with its overall level of educational modernisation reaching the ranks of the world's advanced countries (State Council of PRC, May 2023). China has also become the world's second-largest scientific nation and the largest producer of scientific papers (Marginson, 2022), emerging as a significant contributor to global science and technology. The "China Education

Modernisation 2035" plan advocates for active participation in global education governance and in-depth involvement in the development of international education rules, standards, and evaluation systems (State Council of PRC, February 2019). Therefore, China's policy towards international co-operation with Europe reflects a more confident, equal, and mutually beneficial approach to higher education and scientific collaboration. In other words, China no longer views itself as a recipient of development aid but as a provider of international public goods, aspiring to fulfil its ambition of becoming a major global educational centre through its co-operation with the EU.

Third, in response to the changing global landscape, China demonstrates a determination to maintain technological independence and safeguard national interests, forming the basic bottom line of China's participation in international co-operation with the EU. Since 2019, President Xi has frequently mentioned in his speeches that technological self-reliance and self-strengthening are the fundamental supports for promoting overall development, especially stressing that core technologies and key technologies must rely on independent innovation. The issue of technological self- reliance is closely related to China's ability to "survive and develop" (State Council of PRC, 2023). In his meeting with the Dutch Prime Minister, Xi also emphasised the legitimate right of the Chinese people to development, stating that "no force can impede the progress of China's technological advancement" (MoE, March 2024).

We anticipate that the Chinese government will further integrate and reconcile the strategies reflected in these trends in its future policymaking.

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3. WP3: Chinese university strategic adjustments / planning - scientific collaboration

Lin TIAN

This section reports on the policy developments and strategic adjustments of five leading Chinese universities from 2019 onwards.

As case universities were chosen**:** Tsinghua University (THU), Peking University (PKU), Shanghai Jiao Tong University (SJTU), Tongji University (TJU), Sun Yat-sen University (SYSU).

The selected universities were chosen based on the following considerations: (1) 'Double First-Class' universities with high internationalisation: all five universities are recognised as 'Double First-Class' universities' in China, known for their high level of internationalisation. They have established extensive and close collaborations with European partners, making them exemplary cases for studying China-Europe cooperation. (2) Comprehensive academic coverage: These universities represent a balanced focus on both the humanities and sciences. This diversity ensures that the analysis captures a wide range of academic fields and interdisciplinary cooperation. (3) Geographical diversity: The universities are located across different regions of China, including the eastern, northern, and southern parts of the country. This geographical distribution allows for a more comprehensive understanding of China-Europe cooperation in Chinese universities.

Data collection and analysis

122 university documents from the past five years (2019-2023) related to the following keywords were collected: China-Europe cooperation/collaboration, China-Netherlands cooperation/collaboration, internationalisation, international cooperation/collaboration, academic cooperation/collaboration, etc.

These documents (see Table 1) included university strategic plans, action plans, internationalisation strategies/policies, as well as other relevant news web pages and reports. Among these, 14 documents involve China-Netherlands cooperation.

Documents analysis was performed using MAXQDA 2022 based on qualitative content analysis.

Table 1: *Relevant documents from five Chinese universities*

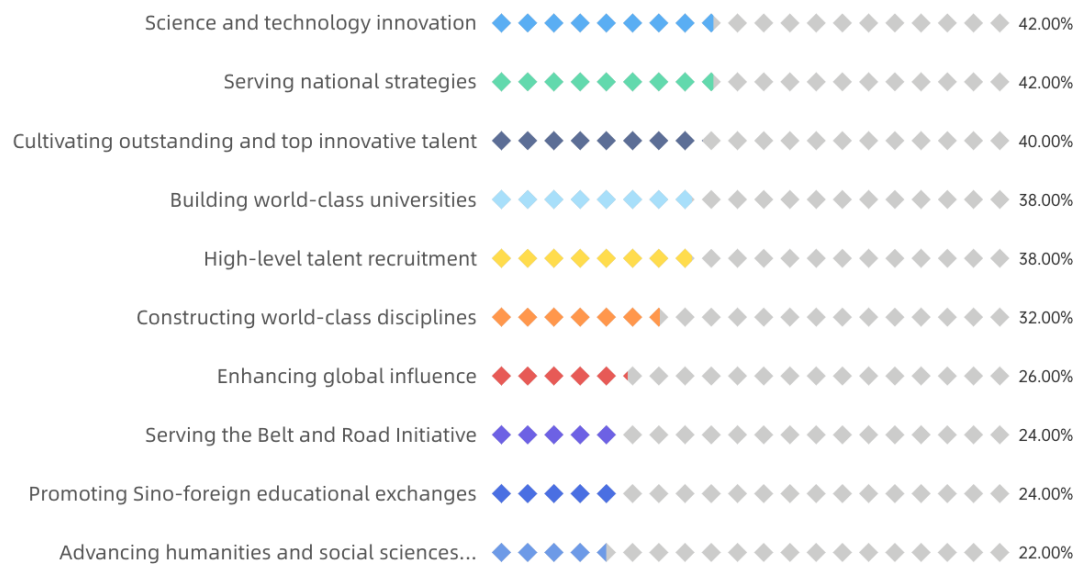
	2023	2022	2021	2020	2019	Total
THU	15	9	9	1	1	35
PKU	8	2	7	7	6	30
SJTU	8	1	5	3	7	24

TJU	15	7	1	1	1	25
SYSU	2	2	3	0	1	8
Total	48	21	25	12	16	122

3.1 The strategic orientation and planning of Chinese universities over the last five years

Five Chinese universities focus primarily on three key dimensions: (1) science and technology innovation, involving technological self-reliance and self-strengthening, and academic peak construction; (2) serving national strategies and contributing to the nation; (3) cultivating outstanding and top innovative talent (see Figure 1). Also, since the introduction of the Double First-Class initiative in 2017, Chinese universities have consistently emphasised building world-class universities (with Chinese characteristics) and constructing world-class disciplines. Additionally, universities highlight strengthening the institution with talent, which involves recruiting top and high-level talents both domestically and internationally. Furthermore, Chinese universities aim to deepen Sino-foreign educational exchanges, expand openness, and optimise relevant practices. In their strategic plans, universities also mention serving the Belt and Road Initiative and aim to enhance global influence and global shaping power through global strategies. In recent years, Chinese universities have placed a strong emphasis on advancing the humanities and social sciences, building think tanks in these fields to achieve cultural leadership and enhance the influence of Chinese culture.

Figure 1: *Top 10 dimensions of Chinese universities' strategic orientation and planning*

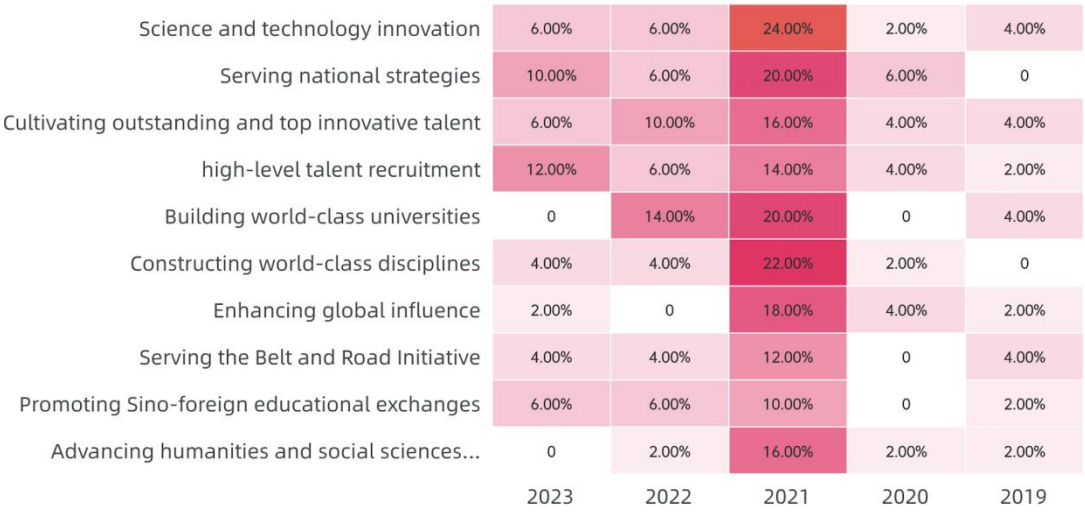


Note: The top 10 dimensions are identified inductively, based on qualitative content analysis. They are sub-categories summarized based on key themes in texts. The percentage indicates the number of documents with relevant codes out of the total number of codable documents; codable documents here refers to documents related to Chinese universities' strategic orientation and planning.

Figure 2 (a thermodynamic diagram) presents the changing trends in the focus areas of Chinese universities over the past five years, primarily comparing the top 10 focus areas. The focus was most intense in 2021, coinciding with the release of *the Outline of the 14th Five-Year Plan* by the five universities, which comprehensively outlined their strategic planning and development directions for 2021-2025. During this period, a series of supporting policies were also released.

From 2019 to 2023, the focus areas of Chinese universities have shown little change. In official documents addressing keywords such as China-Europe cooperation, China-Netherlands cooperation, internationalisation, international cooperation, and academic collaboration, Chinese universities consistently focused on science and technology innovation, the cultivation of outstanding and top innovative talents, and high-level talent recruitment at both home and aboard.

Figure 2: *Changing trends of Chinese universities' strategic orientation and planning*

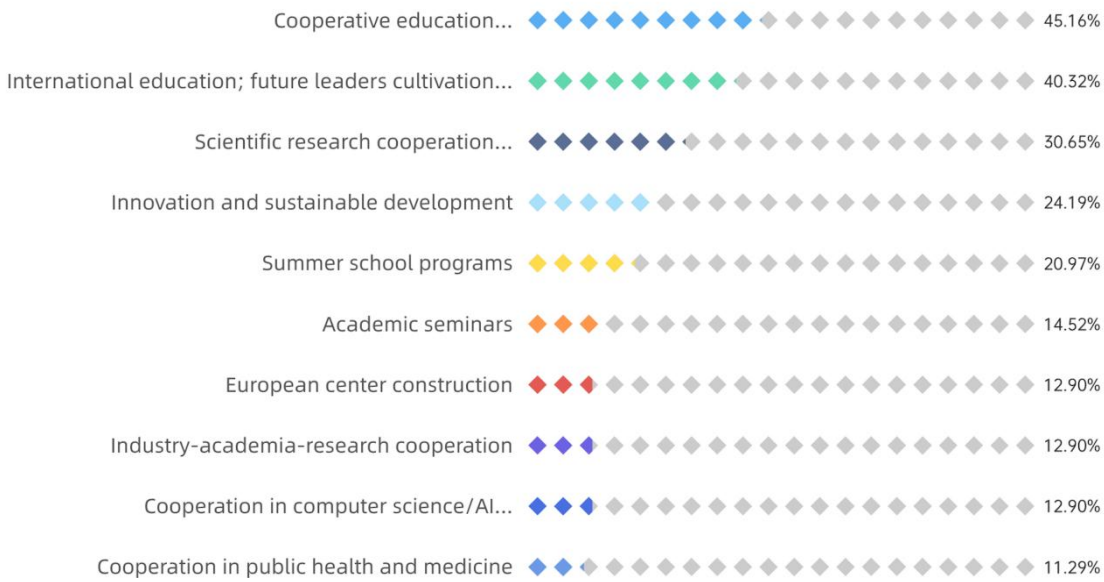


Note: The percentage indicates the number of documents with relevant codes out of the total number of codable documents in different years.

3.2 Chinese universities' relations with EU (NL) and their focused areas

The top ten focus areas of Chinese universities in China-Europe cooperation are shown in Figure 3. Firstly, Chinese universities prioritise cooperative education and joint training programs with European higher education institutions, especially in the joint training of doctoral students. Secondly, they emphasise student exchanges, establishing exchange platforms, and conducting international education to cultivate future leaders, outstanding talents, and internationalised talents. Thirdly, Chinese universities place high value on scientific research cooperation with European universities and research institutions. They are committed to building scientific research cooperation platforms, forming research alliances, and establishing collaborative innovation centres and joint research centres.

Figure 3: *Top 10 dimensions of China-Europe cooperation in Chinese universities*



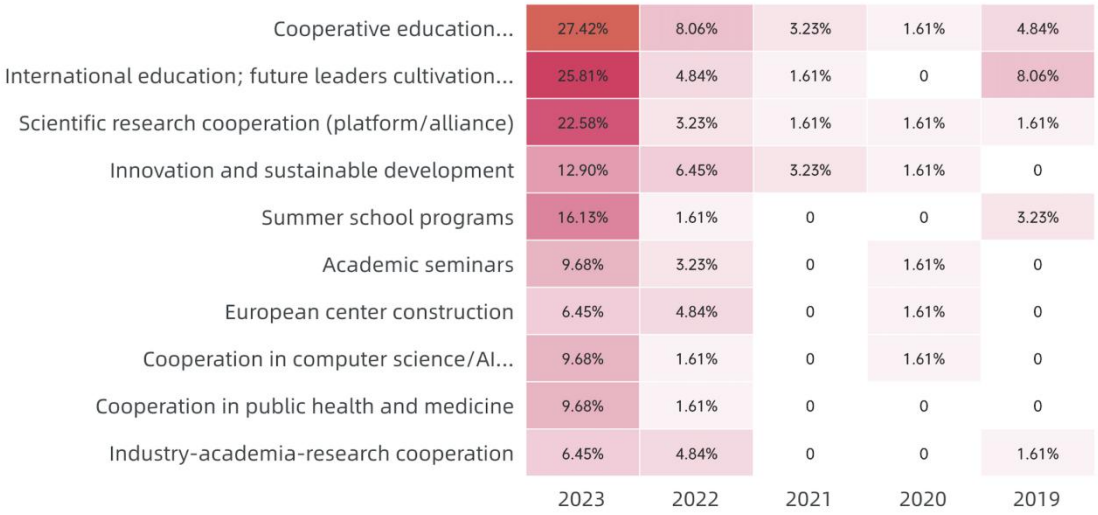
Chinese universities typically collaborate with European partners from countries such as the Netherlands, Germany, France, Italy, and the UK. In June 2023, Sun Yat-sen University signed an inter-university cooperation agreement with Brunel University London, establishing a formal partnership. The agreement focuses on collaboration in the fields of Science, Engineering, and Medicine, as well as on student exchange programs. In November 2023, Tongji University signed a dual degree cooperation agreement with the University of Technology of Hauts-de-France and the University of Applied Sciences of Hauts-de-France. The agreement aims to enhance cooperation in high-quality talent cultivation, faculty and researcher exchanges, joint organization of international conferences, and strengthening STEM education within the framework of UNESCO, thereby contributing to the further deepening of educational and scientific exchanges between China and France.

Regarding China-Netherlands cooperation, the focus areas of Chinese universities are essentially the same as mentioned above. These include cooperative education and joint training programs, cooperation in public health and medicine, joint research programs, student exchanges, university-enterprise cooperation, and the construction of scientific research institutions and relevant alliances. For example, in 2019, Tsinghua University and Wageningen University in the Netherlands officially launched the joint Ph.D. program in Environmental Sciences and Technology (known as the 'EST program'). This collaboration between top universities in China and the Netherlands leverages the strengths of each institution, aiming to cultivate a group of high-level professionals in the field of environmental science and related interdisciplinary areas.

Figure 4 illustrates that Chinese universities are increasingly focusing on China-Europe cooperation. Compared to 2019, there was stagnation in 2020 and 2021 due to the impact of Covid-19. However, in 2022, the focus on China-Europe cooperation began to recover, with increased attention on various areas of cooperation, including the construction of European

centres, industry-academia-research collaboration, and joint education and training programs. For example, Tongji University established the Sino-German Graduate School and the Sino-German Joint Research Center, aiming to create a high-level, internationalised platform for doctoral education that integrates scientific research and education. Later in 2023, Chinese universities took a proactive approach to enhancing China-Europe cooperation. This involved a strategic focus on several key areas: the expansion of cooperative education and joint training programs, the advancement of international education, and the cultivation of future leaders and top talents. Additionally, there was a strong emphasis on deepening scientific research collaboration and establishing relevant platforms and alliances. This proactive stance was characterized by deliberate efforts to strengthen institutional partnerships, accelerate the development of joint initiatives, and actively engage in creating frameworks that would support long-term, sustainable collaboration with European counterparts.

Figure 4: *Chinese universities' focused areas in China-Europe cooperation*



Similarly, China-Netherlands cooperation experienced stagnation in 2020 and 2021 due to Covid-19. It began to recover in 2022. Over the past year, Chinese universities have shown significant interest in cooperating with Dutch universities and research institutions in areas such as cooperative education and joint training programs, public health and medicine cooperation, and joint research programs.

The ranking of Chinese universities based on their focus on China-Europe cooperation is as follows: Tongji University, Shanghai Jiao Tong University, Peking University, Tsinghua University, and Sun Yat-sen University (see Table 2). Tongji University and Shanghai Jiao Tong University primarily focus on cooperative education and joint training programs, international education, and the cultivation of future leaders and outstanding talents. Peking University highlights scientific research cooperation and the development of relevant platforms and alliances, cooperative education and joint training programs, international education, and the cultivation of future leaders and outstanding talents. Tsinghua University focuses on innovation and sustainable development, while Sun Yat-sen University emphasises cooperative education and

joint training programs, international education, the cultivation of future leaders and outstanding talents, and innovation and sustainable development.

Table 2: *Comparison of Chinese universities' focuses on China-Europe cooperation*

	THU	PKU	SJTU	TJU	SYSU
Cooperative education; joint training programs	+	+ +	+ + +	+ + + +	+
International education; future leaders and outstanding talent cultivation	+	+ +	+ +	+ + + +	+
Scientific research cooperation (platform/alliance)	+	+ +	+ +	+ + +	+
Innovation and sustainable development	+ +	/	+	+ + +	+
Summer school programs	+	+	+	+ + +	/
Academic seminars	+	+	+	+ +	+
Cooperation in computer science/AI/digitization/mechanical engineering	+	/	/	+ +	+
Industry-academia-research cooperation	+	/	+	+ +	/
European center construction	/	/	+	+ +	/
Cooperation in public health and medicine	/	+	+	+	+

Note: '+' indicates that the code appears in 1–3 university documents, '+ + + + +' means that the code appears in more than 12 university documents. Table 3 is presented in the same manner as Table 2.

Regarding China-Netherlands cooperation, the ranking of universities based on their focus is as follows: Tsinghua University, Shanghai Jiao Tong University, Sun Yat-sen University, Tongji University, and Peking University. Tsinghua University primarily focuses on cooperative education and joint training programs, as well as cooperation in public health and medicine. Shanghai Jiao Tong University places greater emphasis on cooperative education and joint training programs, as well as joint research programs (see Table 3).

Table 3: *Comparison of Chinese universities' focuses on China-Netherlands cooperation*

	THU	PKU	SJTU	TJU	SYSU
Cooperative education and joint training programs	+ +	+	+	+	+
Joint research programs	+	/	+	+	+
Cooperation in public health and medicine	+	+	+	/	+
Student exchanges	+	/	+	+	+
Building scientific research institutions and relevant alliances	/	/	+	/	/
Sustainable development	+	/	/	/	/
University-enterprise cooperation	+	/	/	/	/

Note: "/" in the table does not imply that these universities lack focus on the respective areas. Instead, it indicates that the official documents collected based on the above-listed keywords from these universities during the specified years (2019-2023) did not explicitly mention these topics.

3.3 The influences of Chinese government policies on China-EU (NL) cooperation

The official documents of five Chinese universities reference 15 national policy documents, with the five most frequently mentioned shown in Table 4. These policy documents have influenced the universities' strategic plan formulations and their focuses on international cooperation and exchange, involving dimensions such as science and technology innovation, serving national strategies, building world-class universities, constructing world-class disciplines, enhancing global influence, serving the Belt and Road Initiative, Sino-European cooperation, international cooperation in public health and medicine, and international cooperative education and joint training programs. Chinese universities are significantly influenced by national policies, as evidenced by the fact that after China released *the Outline of the 14th Five-Year Plan (2021-2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China* in 2021, universities also issued their own 14th Five-Year Plans, aligning with national policies while clearly defining their future development directions and pathways.

Table 4: *Five most-frequently mentioned policy documents by Chinese universities*

Year	Policy documents	Frequency
2021	Outline of the 14th Five-Year Plan (2021-2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China	6
2022	The Report of the 20th National Congress of the Communist Party of China	4
2020	Opinions of the Ministry of Education and Eight Other Departments on Accelerating and Expanding the Opening-Up of Education in the New Era	3
2018	The Action Plan of New Engineering, New Medical, New Agricultural, New Liberal Arts Construction	3
2021	Opinions on Further Promoting the Construction of World-Class Universities and First-Class Disciplines	3

3.4 Challenges (risk) and opportunities for Chinese universities in EU (NL) cooperation

Chinese universities often specify their external challenges and opportunities, as well as internal challenges and risks, in their strategic plans, mainly involving topics listed in Table 5. Among these, new platforms for international cooperation, artificial intelligence, technological innovation, and informatisation, as well as the strategic layout for the rejuvenation of the Chinese nation, bring new opportunities for the development of Chinese universities.

Universities aim to better understand and mitigate the risks and challenges outlined in Table 5 by organizing international academic conferences, conducting research projects, and enhancing international cooperation. They seek to transform these challenges into development opportunities through reform, innovation, and collaboration, ultimately achieving the goals of building world-class universities and serving global common interests.

Table 5: *Challenges and opportunities mentioned by Chinese universities*

External challenges & opportunities	**Internal shortcomings & challenges**
Artificial intelligence; technological innovation; informatisation reshaping higher education	Insufficient original innovation capability
New platforms for international cooperation	Contradiction between existing resources and development needs
Strategic layout for the rejuvenation of the Chinese nation	Inadequate capacity for cultivating high-level top innovative talent
Global uncertainty and instability factors (such as setbacks in economic globalisation, the rise of unilateralism and protectionism, etc.)	Balance between leading academic frontiers and serving national strategies[3]
Intensified global competition	Smart campus construction
Changing perspectives of the EU on China	Building an innovation-leading academic evaluation system
Fierce competition in the field of technological innovation	Lack of top academics

Note: The order of the items listed above is arbitrary.

3.5 The encouraged mechanisms for China-EU (NL) cooperation in Chinese universities

Mechanisms for encouraging China-Europe cooperation in Chinese universities include: (1) special funds and resource investment; (2) supporting policies and initiatives; (3) reforms to streamline administration, delegate power, and improve services; (4) improving mechanisms for tackling key scientific problems and optimizing research models; (5) establishing academic alliances to expand exchanges; and (6) establishing special awards to encourage scientific innovation and international cooperation. For example, in May 2019, Shanghai Jiao Tong University and the University of Warwick in the UK jointly signed an agreement for the SJTU-Warwick Joint Seed Fund project. The University of Warwick and Shanghai Jiao Tong University will provide grants of £10,000 and ¥ 100,000, respectively, to research projects that successfully obtain the joint seed fund, further deepening the research collaboration between the two universities. In June 2019, Tsinghua University, the London School of Economics, the University of Cambridge, the Australian National University, Sciences Po, the Massachusetts

[3] With limited resources, universities need to focus their efforts and allocate significant resources to cutting-edge academic research and knowledge innovation. At the same time, they should avoid becoming isolated 'ivory towers' and instead dedicate part of their resources to contributing to national development, such as conducting research that aligns with national strategies.

Institute of Technology, the University of Tokyo, and other universities jointly initiated the establishment of the Global Alliance of Universities on Climate. On September 5, 2022, the Global Alliance of Universities on Climate launched the 'Climate Change Collaboration' global initiative. In May 2022, Tongji University launched the Germany Cooperation 2.0 Strategy, which includes establishing the first China-Germany Graduate School in China, building the Ministry of Education's China-Germany Joint Research Centre at Tongji University, and founding the Institute of German and European Studies. This initiative focuses on the fields of 'intelligent technology' and 'green development', areas of mutual concern between China and Germany, and aims to create a new ecosystem for Tongji University's cooperation with Germany. This strategy has received positive responses from more than 50 German universities.

4. WP4: How Do Chinese Universities Perceive Evolving Global and Internal Conditions for Academic Collaboration between the EU and China?

Cong-rui Qiao & Yuzhuo Cai

4.1 Introduction

This report is being produced at a time of considerable controversy surrounding the guiding principles for academic collaboration between the European Union (hereafter: EU) and China. Once regarded as a mutually beneficial pathway, the EU-China academic collaboration is now increasingly characterised by caution or even mistrust, which raises critical questions about the future of these academic partnerships.

Whereas the EU's political and academic discourse is characterised by a focus on de-risking and re-balancing, other work packages (hereafter: WPs) of this project, which draw on both quantitative data related to international academic collaboration involving China (WP1) and qualitative analyses of policy documents and university decisions in China and the EU (WPs 2-3 and 5), have offered new insights into how Chinese universities approach international academic partnerships.

In order to provide a more nuanced understanding of the subject matter, this report considers the micro-level perspectives and attitudes within Chinese universities. It is vital for European policymakers and academics to gain an understanding of these internal dynamics in order to fully comprehend the range of factors influencing Chinese universities' decisions regarding collaboration with EU partners in the context of ongoing uncertainty.

This report offers a focused analysis of how experts on Chinese higher education perceive the evolving global and domestic context for China's international academic collaboration, as well as their attitudes towards responses from both the Chinese government and universities. What sets this research apart is its reliance on an expert survey, which captures the perceptions of individuals with direct experience working at or with Chinese universities.

The report is structured as follows:

- **Section 2** outlines the rationale of the expert survey and its structure and contents.
- **Section 3** provides an in-depth analysis of the expert responses.
- **Section 4** summarises the key research findings.

In essence, this report provides invaluable insights, particularly for those with limited access to experts with direct experience of working with(in) Chinese universities, into how evolving geopolitical tensions and domestic agendas are perceived and evaluated by those directly involved in international academic collaboration. Furthermore, it illuminates the anticipated changes from the EU side by Chinese universities in formulating sustainable collaboration.

4.2 The Rationale and Content of the Expert Survey

Our approach is distinctive in its emphasis on mutual trust and insider perspectives, which are often overlooked in large-scale, impersonal data collection efforts. The implementation of an expert survey requires a fairly high degree of trust by respondents. Over 180 experts were selected through the professional academic networks of the project researchers. These experts either work at Chinese universities and research institutes or work outside China but possess extensive experience and knowledge of Chinese higher education and international collaboration.

The design of the expert survey comprises two steps. Firstly, using the online survey tool Qualtrics, the survey was designed to reflect the major shifts in foreign contexts, domestic policies and university decisions relevant to academic collaboration between the EU and China between 2019 and 2024 (in alignment with the WPs 1-3). The survey is structured into four parts:[4]

- **Part 1** is about the respondents' professional background (Questions 1-5).
- **Part 2** addresses their knowledge and views on recent global and domestic changes in international academic collaboration (Questions 6-14).
- **Part 3** focuses on their perceptions of the Strength-Weakness-Opportunity-Threat factors affecting China's academic collaboration (Questions 15-16).
- **Part 4** concerns their attitudes towards governmental and university responses to these changes, and their expectations of partners in the EU (Questions 17-25).

Subsequently, between 15 July and 19 August 2024, the selected experts were invited to share their perceptions and attitudes on the evolving changes via personalised emails or WeChat messages sent by the project researchers with an anonymous link. Respondents were assured that their responses were strictly anonymous.

A total of 72 valid responses were received and processed in the Qualtrics "Results and Report" and Excel. It should be noted that the aim of the expert survey is not to statistically represent the perceptions and attitudes of Chinese academia as a whole. Instead, the objective is to gain qualitative insights from experts who are intimately familiar with the intricacies of academic collaboration between the EU and China.

[4] The contents of the expert survey are disclosed in the Appendix.

4.3 A Detailed Report on the Survey Results

4.3.1 Part 1. Whose perceptions and attitudes?

The survey responses reflect a diverse range of academic disciplines and experiences, with educational studies (42%) and other social sciences (36%) being the most represented fields, followed by natural sciences (22%) and humanities (1%). The majority of the respondents (59%) hold junior to mid-level faculty positions (i.e. postdoctoral researchers, assistant professors and associate professor), followed by professors (18 %), administrators (13%) and PhDs (10%).

The median number of years of academic experience of the respondents is 10, with a range from 1 to 47 years. Regarding academic collaboration with partners in the EU, the median is 7 years, with a range from 0 to 45 years.[5] The countries most frequently mentioned by respondents as their destinations for academic collaboration are the Netherlands, Germany, France, the United Kingdom and Finland.

To summarise, the disciplinary diversity of the respondents provides a broad spectrum of perspectives on international academic collaboration, particularly in terms of how different academic fields engage with and prioritise partnerships with partners in the EU. A noticeable proportion of the respondents are junior and mid-level academics whose perceptions and attitudes are particularly relevant for understanding the collaboration future, as they are likely to shape the implementation of international academic partnerships between the EU and China in the coming decades.

4.3.2 Part 2. How are global and domestic changes perceived?

4.3.2.1 The perceived importance of Europe and the EU Member States

Firstly, there is a nuanced perspective on the changing importance of academic collaboration between Chinese universities and European partners as shown in Figure 1 below:

[5] The survey recorded 13 responses indicating a lack of experience of international academic collaboration. As all responses were collected anonymously, it is not possible to identify the specific respondents who entered this answer. However, it is likely that this was an error in filling in the correct number. The target group consisted of trusted colleagues with whom the project researchers have worked for years, as well as experts met at relevant conferences. Therefore, it's reasonable to assume that they all had at least some experience of international collaboration with researchers or research institutions in the EU, and therefore, their responses to the survey are included in the data processing.

Figure 1: *Importance of Collaborating with European Partners since 2019*

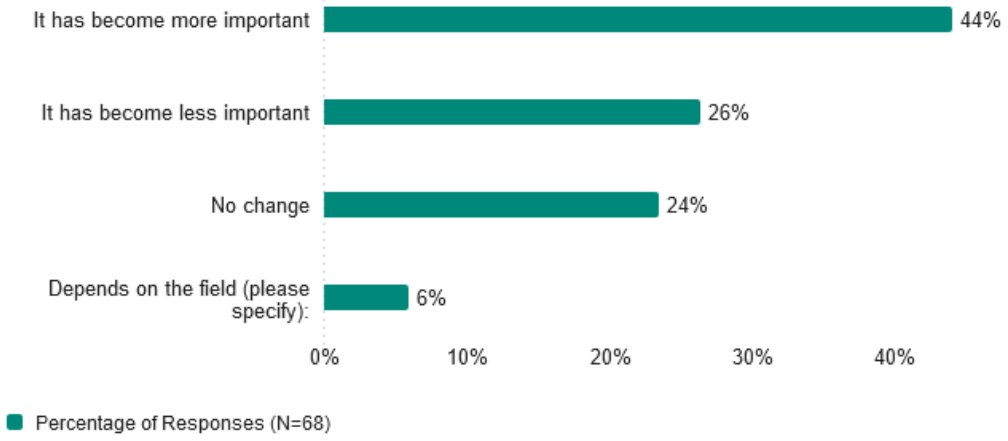
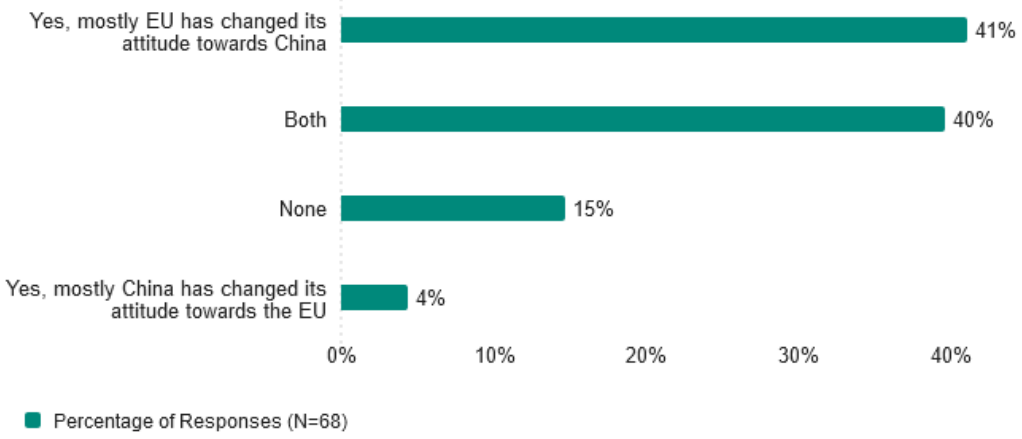


Figure 2 below sheds light on the perceptions of whose attitudinal changes are leading to changes in EU-China academic collaboration:

Figure 2: *Changes in EU-China International Academic Collaboration*



Those who perceive that the changing academic collaboration between the EU and China is primarily driven by a shift in the EU's attitude and stance have identified eight factors that contribute to this perception, as listed below:

- Geopolitical considerations have prompted the EU to impose restrictions on specific scientific and technological collaborations with China.
- The politicisation of academic collaboration in Europe makes it more challenging to form international academic partnerships.
- Academic partners in the EU are reportedly reluctant to publicly proclaim their collaborations with Chinese universities, due to potential public disapproval.
- European universities have cancelled or chosen not to renew their cooperative agreements with Chinese institutions, including the China Scholarship Council.
- European universities tend to view Chinese researchers and students with suspicion, perceiving them as potential intelligence operatives.
- There has been a notable decline in the number of Chinese students accepted into European universities.

- The ascendance of far-right movements in Europe raises the question of whether the EU can achieve unity and maintain openness for academic collaboration.
- Getting visas to EU countries has become challenging for Chinese researchers, particularly those engaged in sensitive research areas.

Secondly, respondents perceive Europe as the most important region for academic collaboration, followed by the USA, the Belt and Road countries, Southeast Asia and other regions in the Global South.[6] Within the EU, Germany, France and the Netherlands are ranked as the top three countries for collaboration, followed by Austria, Italy, Finland and Hungary.[7] Respondents have listed the followings reasons for their rankings:

- Respondents think that "Germany is the most important member of the European Union and has strong economic and trade links with China ... the reasons for collaboration with the Netherlands are similar," and "France: for its potential as a counterbalance to the US-led global power structure."
- Disciplinary relevance influence the perceived importance. Taking the field of international law for example, "Netherlands, Germany and France are countries with important international organisations and international law education in universities is relatively advanced."
- Similarly, the policy environment also plays a role: "Hungary seems to be more friendly towards China ... Finland and Austria seem to be more neutral in their relations with China."
- Media coverage, especially in Chinese and English, shapes the perceptions of the respondents. For example, media coverage of geopolitical tensions, such as trade disputes over electric cars and chip technology in the EU, influences how respondents view collaboration prospects.
- Accessibility "whether universities offer English courses conveniently" also plays a role in their ranking.

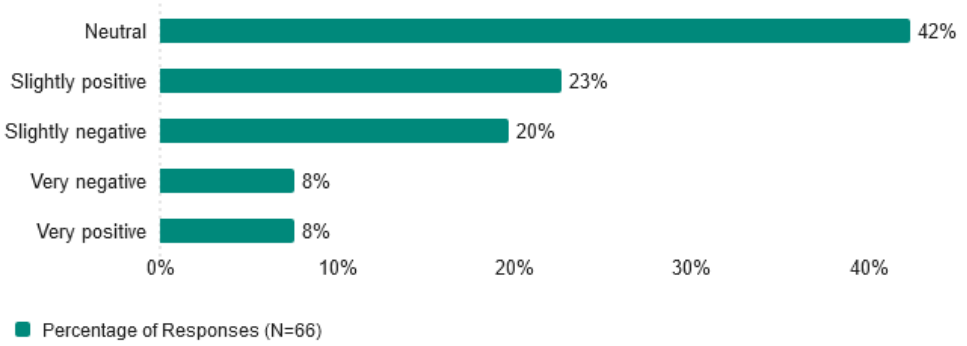
4.3.2.2 Mixed attitudes towards global and internal changes

Respondents' perceptions of recent shifts in student flows, co-publications, the presence of foreign researchers in China, China's increasing investment in doctoral training and its focus on the social sciences and humanities are mixed.

Firstly, as shown in Figure 3 below, a plurality of respondents express a neutral stance (42%) on the shift in student demographics, with more students coming from Belt and Road countries and the Global South than from the West:

[6] The results is based on the Mean and Median scores of the results of a ranking question "8. How important is it for Chinese universities to collaborate with European partners, in comparison to other regions? From the most to the least important."
[7] The results is based on the Mean and Median scores of the results of a ranking question "9. How important are the following countries for Chinese universities to sustain collaboration in the EU? "

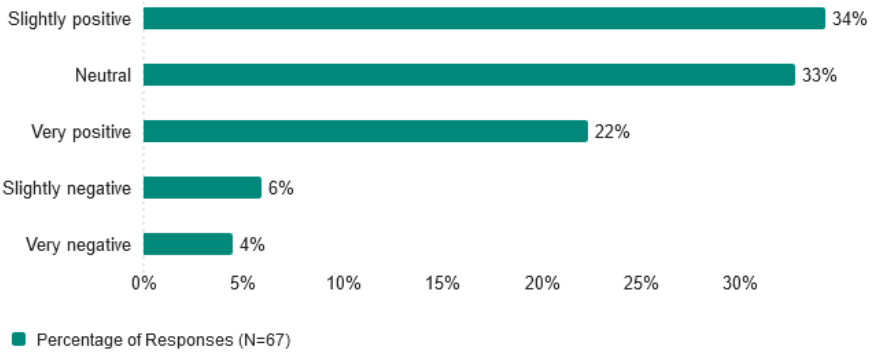
Figure 3: *Attitudes on the Shift in International Student Demographics*



While the Chinese government strives to enhance international collaboration with Belt and Road regions to replace the traditional European educational model with a development-and-sharing-oriented one,[8] there is a notable divergence between the governmental agendas and the expert reactions. The sizeable portion of neutral attitudes suggests both an acknowledgement of the potential advantages of expanding academic collaboration in the Belt and Road and Global South regions and a degree of uncertainty regarding the impact on the quality and diversity of students enrolled at Chinese universities.

Secondly, in terms of changing patterns of co-publication, respondents are largely positive about the decline in Sino-American co-publications and the increase in Sino-European **collaborations**, as shown in Figure 4 below:

Figure 4: *Attitudes on Changing Patterns of International Co-publication*

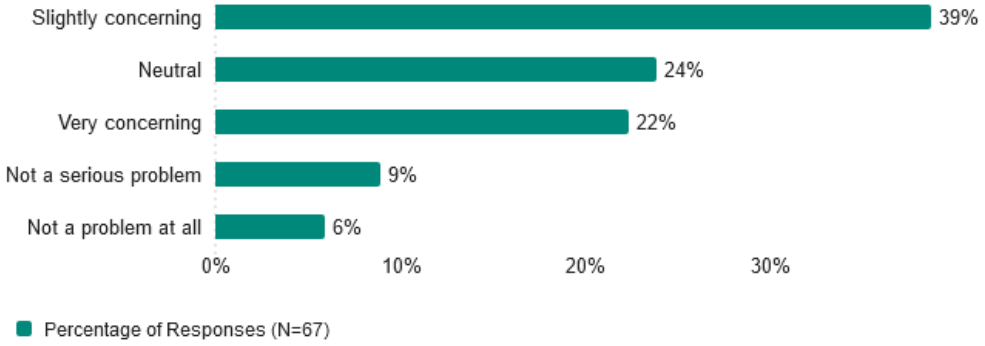


The plurality of the respondents express a positive perception, which aligns with China's strategic pivot towards Europe amidst rising tensions with the US. European collaboration is perceived as a valuable substitute for reduced co-publication with American researchers. The neutral response may reflect a recognition of both advantages and disadvantages, with some respondents still valuing US collaboration despite growing recognition of the importance of EU partnerships.

[8] See: Work Package 3 of this project (in particular, Part 2.2 Joint Educational Programmes).

Thirdly, respondents are concerned about the decline in the number of Western researchers working in China, with 22% seeing this as very worrying and 39% as somewhat worrying, as shown in Figure 5 below:

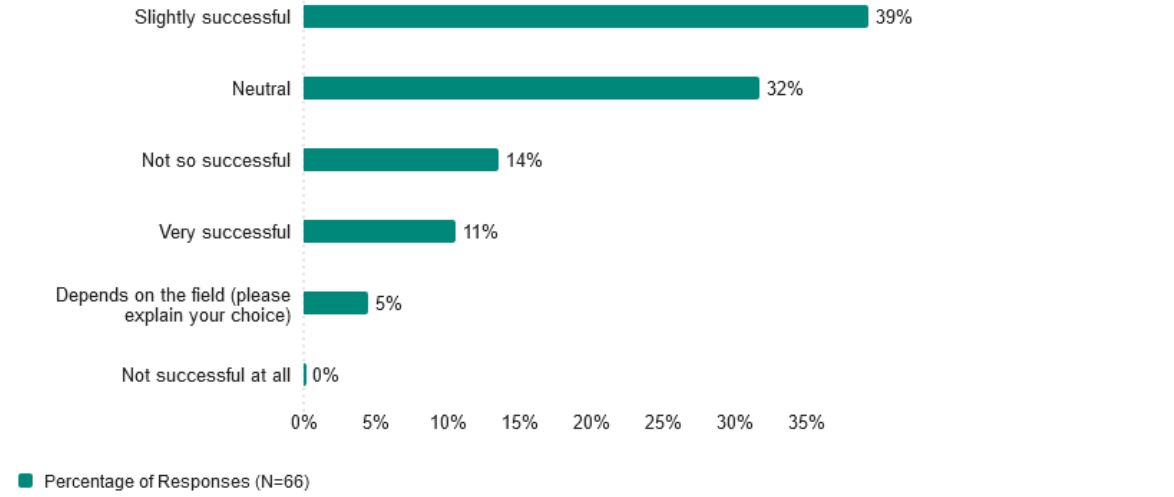
Figure 5: *Attitudes on the Decline in Western Researchers Working in China*



The majority worried about the decline reflects a perceived concern about the loss of international expertise and cross-cultural collaboration that Western researchers bring to Chinese universities. On the other hand, the neutral responses that are fairly noticeable may indicate that these respondents believe that Chinese universities can thrive through internal talent development or collaboration with non-Western researchers.

Fourthly, a slight majority of respondents perceive Chinese universities as successful in retaining Chinese PhDs and attracting international talent, with 11% rating them as "very successful" and 39% as "somewhat successful", as shown in Figure 6 below:

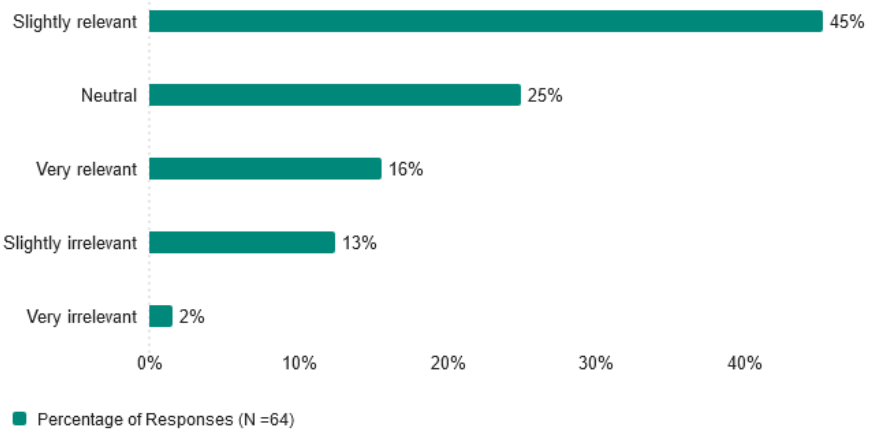
Figure 6: *Attitudes on Chinese Universities' Efforts to Retain Local PhDs and Attract Foreign Talent*



While half of the respondents consider Chinese universities to be successful in their efforts to attract domestic and international talent, the substantial neutral and slightly negative responses reflect the challenges that remain.

Fifthly, as regards the relevance of China's emphasis on the humanities and social sciences to EU-China academic partnerships, the majority of respondents (61%) consider it very or slightly relevant, as shown in Figure 7 below:

Figure 7: *Attitudes on the Relevance of Promoted Humanities and Social Sciences to China's EU Partnerships*



In summary, respondents have nuanced perspectives on the evolving global and domestic conditions for international academic collaboration. While shifts towards greater engagement with Europe are generally seen as positive, there are concerns about the loss of Western researchers and the uncertainty about the changing student flows. While Chinese universities have made progress in attracting local and international talent and in promoting the humanities and social sciences, their impact on EU-China academic partnerships is seen in a mixed light, ranging from somewhat relevant to uncertain or irrelevant.

4.3.3 Part 3. How are strengths, weaknesses, opportunities & threats perceived?

Respondents are asked to categorise the key factors affecting academic collaboration between Chinese universities and European partners according to whether they consider the factors to be a strength, a weakness or both, and whether they consider the factors to be an opportunity or a challenge for Chinese universities to collaborate with Europe.[9]

Table 1 below highlights the strengths of Chinese universities, particularly their large pools of science, technology, engineering and mathematics (hereafter: STEM) talent and their performance. Their investment in smart campus infrastructure and fundamental research, and innovation-oriented academic assessments are seen as competitive advantages that could increase their attractiveness for potential partners in the EU.

[9] These factors are identified through the textual analysis of recent government policies and university decisions relevant to international academic cooperation involving Chinese universities in WP 3 of the project (in particular Part 4. Challenges (risks) and opportunities for Chinese universities in EU/NL cooperation).

***Table 1**: Strengths, Weaknesses, Opportunities and Threats of Chinese Universities' Academic Collaboration*[10]

Strengths	Weaknesses
• Large pools of STEM talents • Smart campus construction • Performance in STEM • Fundamental research • Innovation-oriented evaluation	• Insufficient innovation capacities • Lack of top academics • Weak capacity to cultivate top talents • Contradiction between resources and development goals • Balancing leading academic frontiers with serving national strategies
Opportunities	**Threats**
• New international collaboration platforms • Technological innovation • Informatisation of higher education • Artificial intelligence • Strategic vision for rejuvenating the Chinese Nation	• Global uncertainties and instabilities • EU's changing perspectives on China • Intensified global competition • Fierce technological competition • Strategic vision for rejuvenating the Chinese Nation

(N=65)

Respondents identify weak innovation capacity and a shortage of top-level academics as major constraints and express concerns about the ability to nurture world-class talent. In addition, the challenge of leading academic frontiers while serving national strategic goals is seen as a potential barrier to long-term EU-China academic collaboration.

Opportunities for EU-China academic collaboration are seen in areas such as artificial intelligence, technological innovation and the informatisation of higher education, where Chinese universities are seen as having a strong basis for joint projects. However, global uncertainties and changing EU perspectives on China are perceived as threats to sustainable EU-China collaboration, with increasing technological competition and China's strategic vision for national rejuvenation further complicating EU-China academic partnerships.

Interestingly, China's national rejuvenation vision is perceived as both an opportunity and a threat. The drive for national rejuvenation offers official support for the advancement of science and technology and the promotion of the humanities and social sciences at the university level. On the other hand, the vision could introduce nationalist overtones and create obstacles to fostering international academic partnerships with Europe.

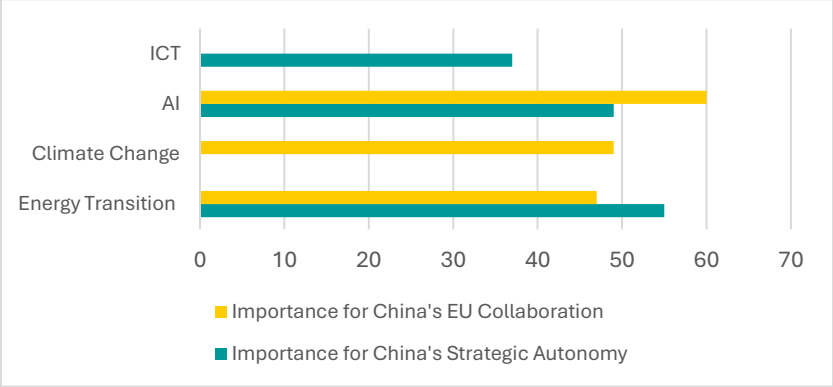
4.3.4 Part 4. How are government and university policies assessed?

Firstly, respondents identify sustainability and digital advancement as the most important areas for academic collaboration between the EU and China. The five most highly-ranked areas for collaboration priorities are energy transition, climate change and environmental management, artificial intelligence (hereafter: AI), water and natural resources management,

[10] The top 5 factors are listed in the SWOT chart, ranked from most to least selected.

and medicine and health.[11] In terms of China's strategic autonomy and technological self-reliance, the most critical areas are seen as in energy transition, AI, and information and communication technology (hereafter: ICT), as shown in Figure 8 below.

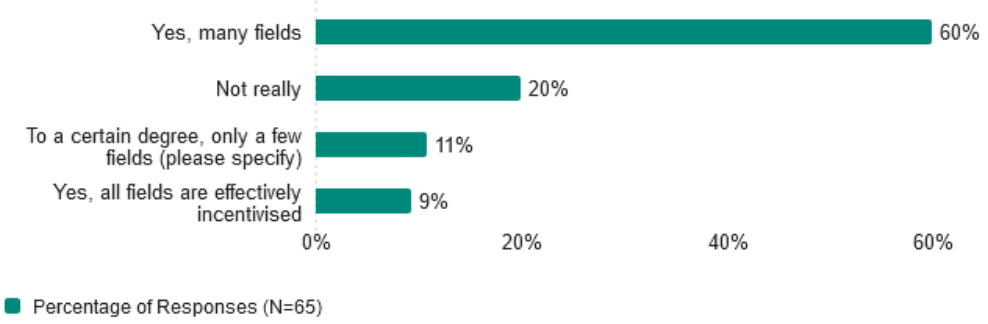
Figure 8: *Comparison of Perceived Top Priority Areas for China's Strategic Autonomy v.s. China's Collaboration with EU*



(A score of 0-60 indicates the relative importance of respondents' choices, with a value of 3 assigned to the top 1 priority, a value of 2 to the second priority, and a value of 1 to the third priority.
A total of 47 responses were received pertaining to the importance of China's strategic autonomy.
A total of 45 responses were received regarding the importance of China's collaboration with the EU.)

Secondly, both Chinese governmental and university policies are perceived as generally supportive of academic collaboration with EU partners, as illustrated in Figure 9 below:

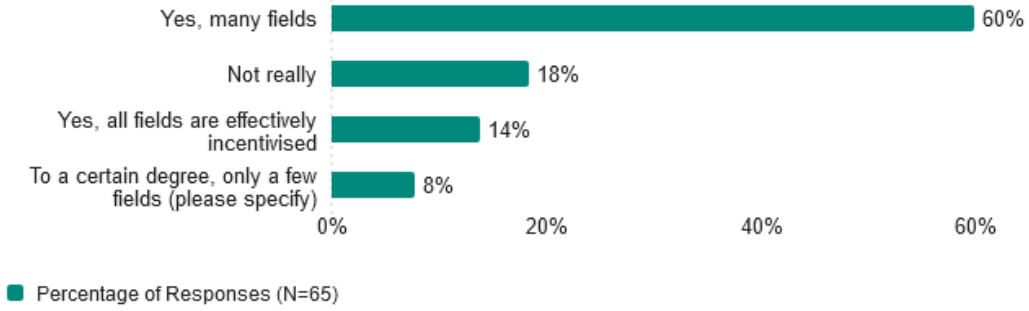
Figure 9: *Perceived Government Support for Incentivising EU-China Academic Collaboration*



Regarding university policies, 74% of respondents indicate that many or all fields are effectively incentivised at the university level, as shown in Figure 10 below:

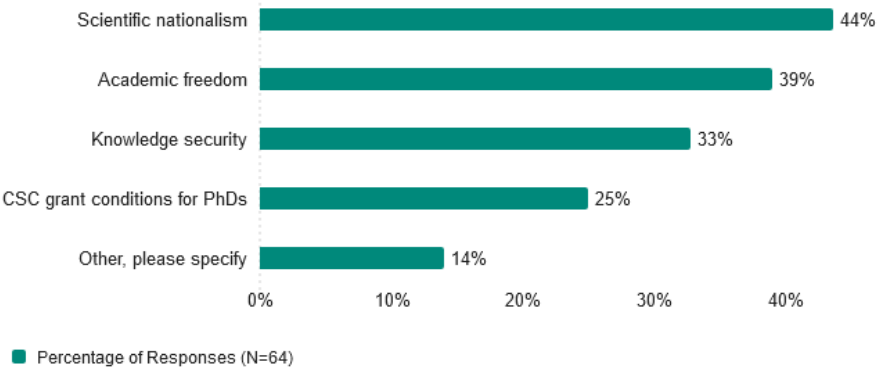
[11] The results is based on the Mean and Median scores of the results of a ranking question "17. Which key areas should Chinese universities prioritise in collaborating with the EU? Please rank your choice."

Figure 10: *Perceived University Support for Incentivising EU-China Academic Collaboration*



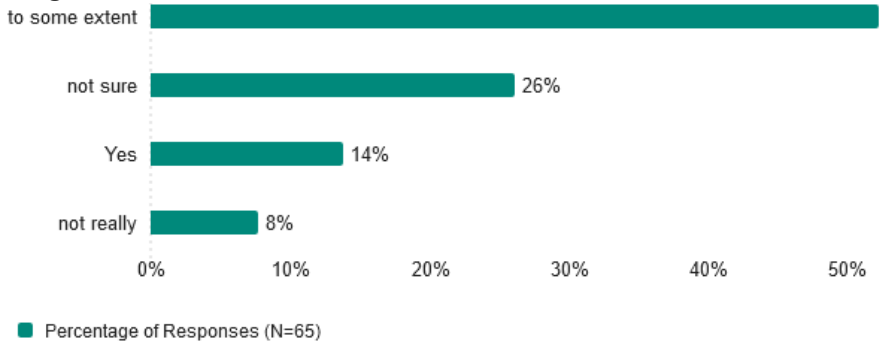
Thirdly, with regard to key challenges that Chinese universities face in maintaining their academic collaboration with EU partners, the most significant issue is identified as scientific nationalism (44%), as demonstrated in Figure 11 below:

Figure 11: Perceived Key Challenges to EU-China Academic Collaboration



In terms of the effectiveness of the Chinese governmental in addressing these concerns, the responses indicate a noticeable discrepancy in confidence, as shown in Figure 12 below:

Figure 12: Perceived Effectiveness of Government Reactions to Academic Collaboration Challenges



Lastly, respondents identify several adjustments that are needed to maintain and improve China's academic collaboration with the EU. The most urgent adjustments include:[12]

- An urgent need to address the growing climate of mistrust and building trust among European policymakers in Chinese universities is seen as crucial.

[12] The list is based on the Mean and Median scores of the results of a ranking question "25. Which adjustments would help to sustain and better balance China's academic collaboration with the EU? Please rank your choice."

- Aligning academic collaboration with common goals, particularly on sustainability issues, is seen as a promising way forward for productive partnerships.
- Raising awareness among Chinese policymakers about European concerns is seen as critical.
- Rebuilding the trust of European academics in their Chinese counterparts is seen as essential.

Other important adjustments include addressing scientific nationalism, revising the EU's knowledge security screening practices, improving China's protection of research data and intellectual property, and increasing Chinese academics' awareness of European concerns. However, respondents also expressed concerns about the feasibility of these adjustments, given that:

- Expectations to mitigate scientific nationalism and limit EU knowledge security screening are considered unrealistic in the current geopolitical climate.
- The idea of an inherent geopolitical conflict between China and the EU due to their political differences remains widely accepted.
- The securitisation of EU-China academic partnerships has led to blanket responses from universities and governments that are unnecessary and counterproductive.

4.4 Conclusions: diversified perceptions and attitudes at Chinese Universities

This report offers a detailed analysis of how experts on China's academic collaboration perceive and assess the evolving global and internal conditions for China's international partnerships. The report's distinctive feature is its utilisation of an expert survey, the key findings of which are as follows:

- In recent years, **Europe** has been perceived as the most significant region for Chinese universities' academic collaboration. On the other hand, the responses are divergent regarding the recent shifts in student mobility, joint publications, and China's investment in doctoral training and humanities and social sciences.
- The **strengths** of Chinese universities are perceived as having strong STEM talent pools, and institutional support for fundamental research and technological innovation. Despite these quantitative strengths, the insufficient capacities for innovation, difficulties in retaining top talents, and challenges in balancing academic excellence with national strategic goals are identified as **weaknesses** of Chinese universities.
- **Opportunities** for collaboration with the EU are identified in digitalisation and sustainability studies. Meanwhile, global uncertainties, shifting EU perspectives, and rising technological competition are perceived as the major **threats**.
- Sustainable development and digital advancement are seen as key **priorities** for Chinese universities to form academic collaboration with EU partners. While the areas of energy transition, AI and ICT are regarded as crucial for China's strategic autonomy, the areas of AI, climate change and environmental management, and energy transition are identified as the most significant for China's collaboration with the EU.
- **Effectiveness of Responsive Policies**: While most respondents feel incentivised to collaborate with partners in the EU, their views on the effectiveness of governmental

and university policies in addressing the challenges to EU-China academic collaboration are divided.
- **Key Challenges and Expectations**: Scientific nationalism, academic freedom and knowledge security are the main concerns for maintaining EU-China academic collaboration. Many call for improved trust-building of European policymakers in Chinese universities and focusing academic collaboration on common goals such as sustainability studies.

In conclusion, this report underscores the diverse perceptions and attitudes within Chinese universities concerning the evolving global and domestic conditions shaping China's academic collaboration. It highlights the intricate nuances of insiders' perceptions and attitudes on China's international academic partnerships, underscoring the need for more differentiated and nuanced approaches in EU policy-making and partnership development, rather than treating China as a homogenous entity.

5. WP5: Comparative Perspective In EU Context: Policies And Instruments In Relevant EU Countries

Cristina PINNA

This section focuses on the question: What can be learned from other EU countries in terms of rebalancing challenges and opportunities in collaboration with China? In particular the practical frameworks (directives) that could guide towards conditions for sustainable EU-China collaboration.

5.1 Introduction

As the perception of EU-China partnerships, especially in advanced technologies, has become increasingly cautious due to growing debates over potential risks like unwanted knowledge transfer, intellectual property theft, and ethical compromises in scientific research (Snetselaar, 2023), the role of universities, as centres for the production and sharing of knowledge, and the internationalisation process have come under scrutiny. (European Council, 2023). Although a consensus has been reached at the EU level on the need to better manage research cooperation with China (Pinna, 2025b), academic cooperation predominantly operates at the level of individual Member States due to the nature of educational policy within the EU. This non-centralised approach - based on the EU's subsidiarity principle, i.e. Member States' sovereignty especially in areas such education and culture (Stalenhoef, Kanetake and van der Wende, 2022) - allows countries to tailor their engagement based on national interests, academic strengths, and strategic priorities. As a result, Member States have established a diverse and multifaceted landscape of educational cooperation with China and their efforts are not always aligned with each other or with the main position of the European Commission (Ibid.; Pinna, 2025b). With heightened concerns over knowledge and research security, EU Member States and their higher education institutions (HEIs), have adopted varied strategies to manage these risks while maintaining beneficial academic collaborations (Stalenhoef, Kanetake and van der Wende, 2022). As such and despite differences, EU countries, like the Netherlands, can learn valuable lessons from each other regarding rebalancing challenges and opportunities in collaboration with China, especially through practical frameworks and directives aimed at sustainable cooperation (Andersson and Lindberg, 2024).

Against this backdrop, this section investigates how selected Member States, such as Austria, Finland, Germany, Hungary and Italy are approaching the balance between benefiting from academic collaborations with China and safeguarding their academic and research sectors from potential security risks. These countries have been chosen as they represent a range of different stances in the EU with regard to collaboration with China.

Figure 1: *A five-country comparison*

Source: The European Union official website (2024)

Table 1: *Snapshot of the selected EU Member States*

Country	Population	EU Position	Cooperation with China	GII 2024 Rank	AFI 2024 Score	Trade Volume (Jan–June 2023)
Austria	9 million	EU member since 1995, bridging East and West Europe	Active in trade, technology, cultural exchanges, and tourism cooperation	17th	0.87	Import: $354,967; Export: $244,763; Total: $599,730;
Finland	5.5 million	EU member since 1995, Northern Europe, borders Russia	Focus on technology, education, and sustainable development collaborations	7th	0.93	Import: $272,134; Export: $171,899; Total: $444,033
Germany	83 million	Founding EU member, key	Strong trade, technology, and	9th	0.93	Import: $ 5,395,182;

		Central and Western European economy	academic partnerships			Export: $5,194,380; Total: $10,589,562
Hungary	9.7 million	EU member since 1995, key Central and Eastern Europe player	Emphasis on trade, infrastructure, and investment cooperation	36th	0.30	Import: $487,184; Export: $237,915; Total: $725,099
Italy	59 million	Founding EU member, represents Southern European stance	Significant trade, cultural exchanges, tourism, and infrastructure investments	26th	0.95	Import: $1,365,464; Export: $2,296,773; Total: $3,662,238
Netherlands	17.94 million	Founding EU member, strategic influence in EU policy	Emphasis on technology, innovation, industrial cooperation, and logistics	8th	0.79	Import: $715,940; Export: $5,219,026 billion; Total: $5,934,967

Sources: The table has been compiled by the author. Sources include: Global Innovation Index 2024; Academic Freedom Index 2024; Chinese Ministry of Commerce (MOFCOM) January-June 2023.

5.2 Austria: China as One of Many Global Partners

Considering its location between West, Central and Eastern Europe, Austria plays a pivotal role within the EU in bridging regional stability and economic integration, while engaging in cooperative ventures with China, particularly in trade, technology, but also cultural exchanges. As China strides to become a global leader in science and research through substantial investments and development programs, Austria considers collaboration important. According to the Austrian Agency for International Cooperation in Education and Research (OeAD) database, there are 131 projects (ongoing and complete) between Austrian and Chinese universities, including the Austrian Academy of Sciences, involving 61 alumni. Furthermore, the Austrian Federal Ministry of Education, Science and Research (BMBWF) operates a bilateral funding program with China's Ministry of Science and Technology (MOST), focused on enhancing research cooperation. Since the signing of a bilateral intergovernmental agreement on scientific and technological cooperation in 1984, BMBWF and MOST have jointly funded collaborative projects between researchers from both countries for over 30 years. Additionally, the OeAD has a cooperation office in Shanghai, which provides advice and supports educational, scientific, and research initiatives between China and Austria, and assists Chinese

higher education institutions in finding partners in Austria (Federal Ministry Republic of Austria, 2024).

These figures indicate a solid academic collaboration between Austrian and Chinese universities, though not an exceptionally distinctive one. Academic cooperation with China in Austria appears to be limited and largely based on historical personal networks established in the 1980s and 1990s, with formalised relationships typically focused on specific departments rather than being university-wide strategic partnerships. This cooperation was further institutionalised after the 1990s when Chinese universities sought to overcome international isolation. Interest in new partnerships from China decreased in the early 2010s as Chinese universities prioritised higher-ranked Western institutions, whereas Austrian interest grew due to perceived market opportunities in China (Gerstl and Mandl, 2022). Today, Austrian universities are selective about cooperation requests from China, often influenced by prior experiences and personal contacts, with few being classified as 'strategic'. The University of Vienna, the largest in Austria with over 90,000 students, has five strategic partnerships, including with Chinese universities Fudan University and Peking University since 2019, although activities have been limited due to the COVID-19 pandemic (Ibid.)..Cooperation with China is typically not very close, with no substantial financial exchanges due to the nature of Austria's university system.[13] The number of positions in study exchange programs is limited, partly due to language barriers. Some collaborative agreements do exist, such as the Sino-Austrian Electronic Technology Innovation Centre (SAETIC) established in 2015 by the Graz University of Technology and the China Electronics Technology Group Corporation. Leading tech companies like ZTE and Huawei also partner with Austrian institutions like the Vienna University of Technology, which received 44 digitalisation stipends from Huawei in 2022 (Ibid.)

Despite rising awareness of the authoritarian nature of China, there are no specific monitoring programs in place at Austrian universities, although some HEIs have included academic freedom references in MOUs with Chinese institutions (Ibid.). At the national level, the RTI Strategy 2030 and the University Mobility and Internationalisation Strategy 2020-2030 lay out plans to enhance Austria's status as a thriving hub for higher education, research, and technology within the EU and internationally. In these documents, there's no specific mention of security concerns related to China; the only references are related to regulations regarding admission and recognition of diplomas (Federal Ministry of the Republic of Austria, 2024). The Confucius Institutes and other cultural and language centres play a role in facilitating interactions, but overall, cooperation is limited, with few student exchanges and partnerships. According to Gerstl and Mandl who conducted field work in 5 Austrian universities in 2022, about half of the identified links with Chinese universities are with institutions associated with the People's Liberation Army (PLA), presenting risks related to knowledge and technology

[13] Austrian public university budgets are allocated by the federal government, meaning universities do not need to generate their own income, although they do welcome external research funding from national, EU, and international sources. Secondly, there is no reliance on student fees as a revenue source; Austrian and EU citizens study for free, and non-EU students pay a maximum of €1500 per year. Therefore, Austrian universities are not dependent on international students from any major source country, unlike Anglo-Saxon countries. Thirdly, the absence of a sponsoring culture for academic chairs further limits external influences from other governments, businesses, or private individuals. Ibid.

transfer, despite no apparent Chinese influence on Austrian universities. An example of "risks" in academic cooperation is the collaboration in quantum physics between Anton Zeilinger, a renowned Austrian physicist and Nobel laureate, and his Chinese counterparts since the late 1990s; China's quantum researcher Jian Pan Wei was supervised by Anton Zeilinger (Giles, 2018). Due to insufficient funding from Austria or the EU, Zeilinger has conducted sensitive experiments in China since 2017. This highlights how funding shortages in the EU can potentially open avenues for China's influence in European academia, possibly leading to dual-use technology transfers (Gerstl and Mandl, 2022).

Chinese Student Exchange and Academic Collaboration with Austria

- Chinese student exchange programs and foreign student populations are expected to remain limited due to the lack of financial incentives for Austrian universities. At the University of Vienna, only about 1% of non-Austrian regular students are Chinese, with nearly half being PhD students. Student mobility to and from China is also minimal, with 2-3% of outgoing and 5-6% of incoming mobility students involving China.
- The Eurasia-Pacific Uninet (EPU) offers a unique platform for academics to establish and deepen contacts with Chinese counterparts. Financed by the Austrian Ministry for Science and Education, EPU funds short-term mobilities and covers travel and per diem expenses. EPU includes most Austrian universities and 64 Chinese universities, along with institutions from Taiwan, Central Asia, Russia, and Japan. A few dozen mobilities between Austria and China occur annually through EPU, in addition to bilateral university programs, with some collaborative projects starting with an EPU mobility grant to build mutual trust.

Source: Gerstl and Mandl, 2022

5.3 Finland: Increasing Vigilance

Finland, representative of Northern EU member countries, actively contributes to the EU's strategic policies and economic stability, while fostering pragmatic cooperation with China, emphasizing innovation, technology, and sustainable development. The reform of Finland's higher education system in the 2000/10s towards a market-oriented model reflected alignment with the EU's directives of building a knowledge-based economy where funding for international higher education increasingly became viewed as a private rather than a public responsibility (Marginson, 2004). These reforms positioned international education as a revenue source for Finnish HEIs (Cai and Hölttä, 2014). Recognizing a global demand for quality education, Finland aimed to capitalise on this trend for economic benefit by introducing tuition fees for international students (from outside the EU) aimed not only to enhance Finnish universities' international appeal but also to develop education as a service trade export. Within this context, and despite challenges[14], Sino-Finnish higher education cooperation has developed in the last years as the Finnish objective matched the Chinese need for increased internationalisation and quality education. (Cai and Hölttä, 2014).

The framework for HE cooperation between China and Finland includes several key initiatives and agreements. The China-Finland HEIs Cooperation Framework established in December

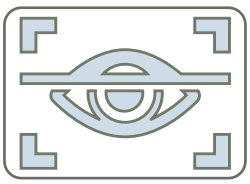
[14] These included cultural awareness gaps, difficulties in establishing substantive partnerships with Chinese counterparts, and uncertainty among Finnish stakeholders regarding market entry and collaborative strategies that resonated with Chinese realities and needs. (Cai and Hölttä, 2014)

2015 laid the foundation for these collaborative efforts. One significant project is the China-Finland Learning Garden, launched in 2015, which encompasses the Sino-Finnish Joint Learning Innovation Institute (JoLii) initiative focusing on student mobility and joint research. Another important endeavour was the CIMO Project (2015-2017), which provided training and workshops for international office executives. Additionally, a Memorandum of Understanding (MoU) between the Rectors' Conference of Finnish Universities of Applied Sciences Arene (ARENE) and National Academy of Education Administration (NAEA) established the Universities of Applied Sciences (UAS) Rectors Forum, with agreements spanning from 2017 to 2022. The collaboration was further strengthened by the first China-Finland Education Policy Dialogue in May 2021, which addressed student exchange, higher education, vocational education, language teaching, and sports (Jing, 2022).

In 2022, the Finnish Ministry of Education and Culture issued the document "Recommendations for Academic Cooperation with China" which outlines strategic approaches and guidelines for Finnish HEIs and research institutes engaging in academic partnerships with China. Given the global significance of China as an emerging superpower and a leader in research, development, and innovation (RDI), these recommendations aim to navigate the complex landscape of international cooperation, balancing opportunities with potential risks (Finnish Ministry of Education and Culture, 2022). While the document highlights the importance of collaborating with China to enhance Finnish research capabilities and contribute to solving global challenges, nonetheless several challenges and considerations have been underlined. The first of those refers to the difference in values and systems. Finnish institutions uphold principles of academic freedom, scientific integrity, and peer review, which may not always align with China's state-centred approach. In China, HEIs are closely tied to the government and the Communist Party, with a significant emphasis on political education and social development. This divergence in values, especially regarding academic freedom and autonomy, can complicate collaboration, particularly in social sciences. Secondly, the geopolitical landscape also affects academic cooperation. As the EU views China as both a partner, a competitor and a rival, reflecting a multifaceted relationship, for Finnish institutions, this means being vigilant about national security, ethical standards, and reputational risks. The document highlights concerns about intellectual property rights (IPR), data security, and potential dual-use of technology, which could have military or political implications. These aspects necessitate a careful and informed approach to collaboration. Thirdly, China's quest for technological and scientific dominance has led to an intense global competition for knowledge and innovation. Thus, Finnish institutions must navigate this competitive landscape while maintaining their own scientific and technological standards.(Ibid.) The recommendations stress the importance of ensuring reciprocal transparency, equality, and compliance with agreements in collaborations. Finnish HEIs are encouraged to promote good scientific practices and safeguard their research data against cyber threats and espionage. The report (Ibid.) suggests key recommendations on each of this aspects which include:

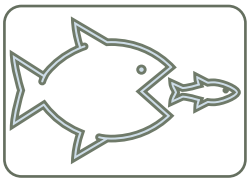
Respect for Academic Freedom and Integrity

Finnish institutions should insist on adherence to ethical standards, unbiased scientific peer review, and good scientific practices. This includes being vigilant about political influence and ensuring that collaborative projects do not compromise academic freedom.



Security and Safety Considerations

Institutions must pay attention to national security aspects, personal safety, and potential dual-use of technologies. This involves assessing the risks associated with research data transfer and maintaining robust cybersecurity measures.



Maintaining Competitiveness

Finnish HEIs should remain competitive by safeguarding their intellectual property, ensuring compliance with export controls, and being aware of potential espionage activities. Collaborations should be mutually beneficial, with clear agreements on data sharing and use.

Source: Finnish Ministry of Education and Culture (2022) "Recommendations for Academic Cooperation with China" (table compiled by the author)

5.4 Germany: Responsible Engagement

Germany plays a pivotal role in the EU as a leading economic power and key advocate for strategic, cautious engagement and cooperation with China, balancing opportunities with the need to address systemic risks and differences. Over the years, China and Germany have developed strong connections across various fields, with academic cooperation being particularly significant for the future of their relationship. This collaboration is fuelled by long-term investments in education and research, especially as China undergoes an economic and social transition that emphasises the promotion of education and training as key to economic development. Against this backdrop, Sino-German cooperation in higher education has been expanding.

Germany-China Academic Collaboration and Student Exchange: Key Statistics

As of August 2019, there were 1,422 official collaborations between German and Chinese higher education institutions, involving 222 German universities partnering with 348 Chinese institutions and 33 other organizations. Chinese students make up the largest group of international students in Germany, with 39,103 enrolled in German universities last year, accounting for about 12% of all international students. Additionally, China was the sixth most popular destination for German students in 2016, with 8,145 Germans studying there, and ranked eighth among Germany's top ten co-publishing countries for scientific publications.

Source: DAAD's Wissenschaft Weltoffen 2019 report

The 1978 Intergovernmental Agreement on Scientific and Technological Cooperation marked the beginning of extensive collaborations between Germany and China. Educational cooperation is fostered through policy strategy talks focusing on university cooperation, student, and academic mobility. Germany's comprehensive expertise in vocational education and training makes it an attractive partner for China. The German-Chinese Alliance for Vocational Education and Training, established in 2011, holds regular meetings involving both business and educational institutions. The Federal Ministry of Education and Research (BMBF) published the China Strategy in October 2015, supporting the 2014 innovation partnership between Germany and China. This strategy guided cooperation in research, science, and education until 2020, with active projects in innovation, environmental technologies, the digital economy (Industry 4.0), electromobility, life sciences and bioeconomy, and marine and polar research. Domestically, the BMBF collaborates with the Federal Foreign Office and the Standing Conference of the Ministers of Education and Cultural Affairs (KMK) to enhance China's expertise at various educational levels (Expatrio, June 2024).

Following the EU reposition on China in 2019 and the COVID pandemic, Germany also redefined its strategy including academic cooperation with Chinese institutions. In 2023, the Federal Government issued the document "Strategy on China" which outlines the perspectives on its relationship with China, aiming to better assert Germany's values and interests. It provides also tools for enhancing coordination on China policy across Germany, Europe, and beyond.

This shift can be also seen in terms of research cooperation. The German Research Foundation (DFG) released in 2021 "Dealing with Research Data" (2021), a concise, 2-page checklist for German research-performing organizations (RPOs) and HEIs, outlining essential practices for managing research data, including description, documentation, storage, legal compliance, and sharing responsibilities. In 2023, a new document was released "Dealing with Risks in International Cooperations". This guideline emphasises the importance of risk and gain assessments for international research collaborations. It provides a structured approach with critical questions to evaluate dependencies, potential misuse of research, involvement in military activities, and legal challenges, helping researchers and institutions make informed decisions (Czekanski et al., 2024). Another worth mentioning example of this shift, it's the "Leitplancken" document, published in 2022 by the Max Planck Society, that provides comprehensive guidelines for staff and researchers on responsible scientific conduct, covering research integrity, data protection, IT security, and export control, with practical examples to ensure understanding and compliance (ibid.).

In January 2024, DAAD published a new document that serves to redefine German's position focus on leveraging opportunities from cooperation with Chinese partners while considering the wider political, financial, and strategic environment. In brief, the documents highlighted that while China presents significant opportunities for academic cooperation, it also poses substantial challenges due to systemic differences and recent disruptions from the pandemic. As such, responsible and strategic engagement is crucial for maintaining beneficial academic relations (DAAD, January 2024).

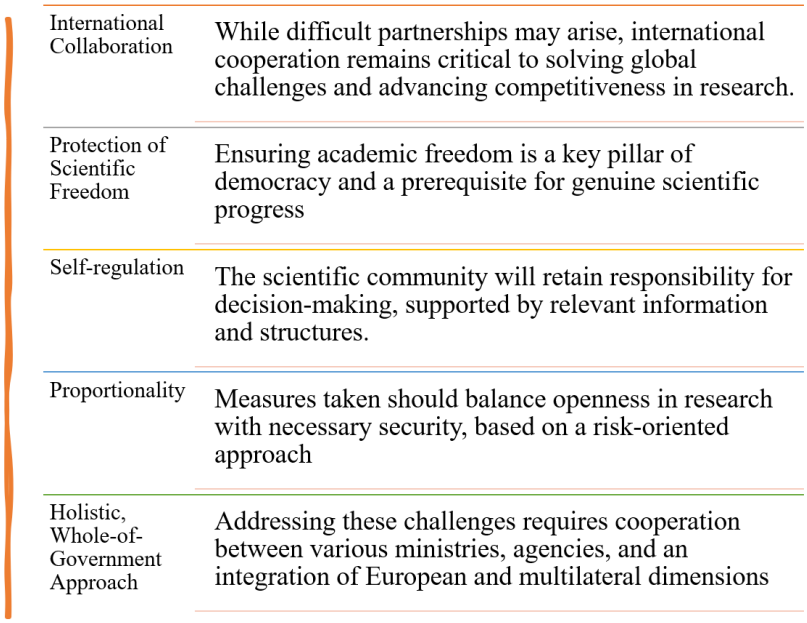
According to the document, German higher education institutions should follow three guiding principles when forming partnerships with China. Firstly, institutions should consider their own interests and expectations, ensuring cooperation is reciprocal and aligned with their goals. Secondly, they need to adopt a risk-reflexive approach, accessing outstanding research in China while protecting national sovereignty and security using international tools for research security. Thirdly, cooperation requires mutual understanding and robust knowledge of China's science, academia, business, society, and politics.

Figure 3: *Core principles and recommendations for Sino-German academic cooperation*

Source: DAAD (January 2024) Academic cooperation with China: a realistic approach

Almost simultaneously, in March 2024, the German Federal Ministry of Education and Research issued a "German Federal Position paper on research security in light of the Zeitenwende (turning point in history)". The position paper addresses the shifting global landscape, underlining the need to re-evaluate the strategic environment affecting science, research, and international collaboration. Key challenges include cyber threats, rising multipolarity, and competition with countries like China, Russia and Iran, which require a more strategic, security-oriented approach to research. Overall, the paper reflects the Federal Government's intent to balance openness in research with heightened security demands, including leveraging synergies between the civil and military research. The paper highlights five guiding principles and three key dimensions as described respectively in the figure 4 and table 2 below.

Figure 4: *Guiding Principles on Research Security of the German Federal Ministry of Education and Research*



International Collaboration	While difficult partnerships may arise, international cooperation remains critical to solving global challenges and advancing competitiveness in research.
Protection of Scientific Freedom	Ensuring academic freedom is a key pillar of democracy and a prerequisite for genuine scientific progress
Self-regulation	The scientific community will retain responsibility for decision-making, supported by relevant information and structures.
Proportionality	Measures taken should balance openness in research with necessary security, based on a risk-oriented approach
Holistic, Whole-of-Government Approach	Addressing these challenges requires cooperation between various ministries, agencies, and an integration of European and multilateral dimensions

Table 2: *Key dimensions on Research Security of the German Federal Ministry of Education and Research*

Dimension	No.	Description	Rationale
Dimension I: Increasing the efficiency and effectiveness of instruments, structures, and procedures			
	1	Reflection on and revision of self-regulation instruments in light of the Zeitenwende.	Existing instruments are reaching limits due to geopolitical threats. Review and revision are needed to ensure research security, with input from the science community and international best practices.
Dimension II: Strengthening knowledge and awareness			
	2	Development of common guidelines for research security.	Researchers must balance freedom of science with responsible handling of security risks. Drawing from guidelines used internationally, Germany should develop its own comprehensive guidelines for research security, considering dual-use relevance.
	3	Improvement of information base for research security; examination of clearing house need.	Lack of accessible information for assessing security risks in research. Propose a central platform and clearing house to support decisions, modelled on existing international systems like the

			ASPI China Defence Tracker and Canada's risk list.
	4	Identification of sensitive technologies and definition of research fields important to the Federal Government.	A regularly updated "living" list of sensitive technologies, based on the EU's economic security framework, is necessary to support informed decisions about dual-use relevance in research and key innovation sectors in Germany.
	5	Strengthening resilience against intelligence gathering by foreign services.	Science institutions should be aware of risks from espionage during international cooperation. Training programs and collaborative solutions can improve resilience, especially in smaller institutions with limited resources.
	6	Increasing transparency regarding foreign dependencies in science institutions.	Institutions must disclose foreign third-party funding above a threshold to prevent dependency risks and unauthorized knowledge transfer, ensuring trust and transparency in research.
Dimension III: Leveraging synergies between civil and military research			
	7	Reflection on the appropriateness of civil clauses in light of the Zeitenwende.	Civil clauses, which limit military research, may need revision to reflect modern geopolitical realities. Open discussions should address the complexity of differentiating between civil and military research.
	8	Strengthening cooperation between civil and military research institutions.	Enhanced collaboration between civil and military research can broaden knowledge sharing and strengthen Germany's research capabilities, learning from models like the U.S. Defence Advanced Research Projects Agency (DARPA).

In July 2024, the Deutsche Zentrum für Luft- und Raumfahrt e.V. (German Aerospace Centre) published the document "Due Diligence in Science – Manual for an assessment process for the protection of science and co-operation in the international cooperation between universities and research institutions". The concept of "Due Diligence in Science" and the DLR-PT manual offer guidance for research institutions and universities, helping them to establish appropriate processes, responsibilities, and workflows to ensure the integrity of their research partnerships (Safeguard Science, 2024).

5.5 Hungary: China As An Opportunity Rather Than A Risk

Hungary, a key player in Central Eastern Europe (CEE), faces intricate challenges within the EU, particularly regarding democratic policies and the rule of law, which have also impacted its HEIs

(Révész, 2024). Over the last decade, significant reforms in Hungary's higher education system, led by Prime Minister Viktor Orbán, have centralised control over universities and academies. By 2021, the governance of 34 institutions, including 21 universities, was transferred to public trust foundations managed by individuals closely affiliated with Orbán and his political party (Krull and Brunotte, 2021). This centralisation raised concerns about the rule of law[15], prompting the EU to trigger Article 7 in 2018, a disciplinary procedure against Hungary for undermining democratic rules and being "a clear risk of a serious breach of the values referred to in Article 2 of the Treaty on the European Union." (Van der Wende. 2021) Following this, in January 2023, the EU suspended Horizon Europe and Erasmus funding to these institutions due to rule of law breaches. The EU also restricted Hungary's access to cohesion funds and the Recovery and Resilience Facility to counteract what it perceived as authoritarian shifts in governance within Hungary's education sector. In response, the Hungarian government contended that the Commission's decisions "unfairly target public interest trusts and the universities they manage," (Brent, 2023) maintaining that it had fulfilled all its commitments and opposing the exclusion of its universities from participating directly in EU tenders. Some argued that "the reforms were necessary for Hungarian universities and that the funding cuts forced them to seek support outside the EU, despite the potential dependency risks involved" (Pinna, 2025b).

Hungary's engagement with China, influenced by Orbán's Eastern Orientation Policy from the 2010s, illustrates a strategic shift aimed at strengthening Hungary's global connectivity and infrastructure development. As a pioneer within the EU in endorsing China's Belt and Road Initiative (BRI) and a leader of the former 16+1 group, Hungary has positioned itself at the forefront of CEE-China relations (Pinna, 2025a).

Hungary-China Academic and Technological Cooperation

In higher education, this relationship is marked by substantial agreements to enhance academic and technological exchanges. Notably, a 2019-2022 framework agreement, signed by Hungary's Minister for Innovation and Technology, László Palkovics, and China's Vice Minister of Education, Zheng Fuzhi, included 230 scholarships alongside short-term research positions (About Hungary, 2019). This is complemented by numerous institutional collaborations across various disciplines, such as the recent partnership with Miskolc University, which underscores the depth of Hungary-China academic cooperation (University of Miskolc, 2023).

The cultural aspect of this partnership is highlighted by the establishment of five Confucius Institutes in Hungary, which is not a small number considering that Hungary has a population of 10 million inhabitants. Those facilitate cultural and educational exchanges, particularly targeting the significant Hungarian Chinese community and those closely involved with Chinese affairs (Matura, 2022).

[15] The EU triggered Article 7 in 2018, a disciplinary procedure against Hungary for undermining democratic rules and being "a clear risk of a serious breach of the values referred to in Article 2 of the Treaty on the European Union".

Controversies, such as the debated establishment of Fudan University's campus in Budapest (Révész, 2024), mainly led by the opposite party and supported by the Budapest's mayor, were clear sign of discontent reflecting underlying tensions within Hungary concerning Chinese influence in higher education. This was paralleled by domestic discontent following the closure in 2019 of the Central European University (CEU)–- established in 1991 by Hungarian-born financier George Soros - as it was forced to meet new regulations targeting foreign-funded universities (BBC, 2021; Green, 2021; Pinna, 2025b).

Despite these challenges, Hungary's commitment to deepening ties with China continues, as evidenced by the signing of five BRI agreements at the third Belt and Road Forum in October 2023, focusing on enhancing scientific and technological cooperation (Global Times, 2023). This ongoing partnership demonstrates Hungary's strategic embrace of Chinese investments in education and science, aligning with broader economic and strategic goals (Pinna, 2025b). Regarding knowledge security, no specific statements from Hungarian representatives were found during the search. Conversely, at the Eurasia Forum—held in Budapest in November 2023 and organised by the Hungarian Central Bank in collaboration with five Chinese partners out of 18—György H Matolcsy, the Governor of the Magyar Nemzeti Bank, emphasised in his opening speech the importance of "joint thinking" and international cooperation "inclusivity and knowledge sharing" for the new generation of talent, subsequently citing a Chinese proverb. His speech was followed by the opening speech of Wu Hongbo, the Special Representative on European Affairs of the Chinese Government (Eurasia Forum, 2024; Pinna, 2025b).

The absence of concerns on knowledge and research security might be the result of the dominant narrative shaped by the Orban's government surrounding academic cooperation with China. However, two considerations are important. First, internally, domestic political power struggle between the Orbán government and the Europhile, left-liberal opposition is intertwined with foreign policy orientations. As a response, the left-liberal opposition parties, supported by their Euro-Atlantic political and intellectual counterparts, can use the anti-Chinese stance as a political tool. Consequently, the domestic situation should be monitored as it influences the country's foreign policy orientation towards China. (Marac L, 2023, Pinna, 2025a). Secondly, it is reasonable to suppose that Hungary, within the broader EU framework as indicated by the EC recommendation on enhancing research security in January 2024, approaches such cooperation with a consideration of both the opportunities and security challenges posed by international academic partnerships, involving a higher level of scrutiny, particularly in areas of strategic importance. However, the suspension of EU funds to major Hungarian academic and cultural institutions might ignite a counterproductive effect for the Hungarian alignment with EU stance. (Pinna, 2025b) More recently, the European Commission has chosen to boycott Hungary's six-month EU Council presidency due to Viktor Orbán's contentious visits to Moscow and Beijing, which are largely viewed as undermining the bloc's political unity (Liboreiro, 2024).

5.6 Italy: An Ambivalent Partnership

Italy, standing as a pivotal nation within Southern Europe and a foundational member of the EU, boasts the EU's third-largest economy. Its unique position as the only G7 country to formally engage with China's BRI marks a significant moment within EU-China relations and far beyond within the NATO alliance, leading to a reconsideration of such agreement under the leadership of Giorgia Meloni's government in late 2023. (Pinna, 2025a)

To what concerns academic cooperation with China, a noteworthy point is that Italy was among the earliest Western nations to sign an intergovernmental agreement with China in 1978, coinciding with China's opening-up reform. This agreement fostered cooperation in science and technology, opening Italian universities to Chinese scholars and students. (Marinelli and Andornino, 2014).

In response to China's expansion in higher education, Italy has proactively engaged with Chinese educational institutions to boost its own academic and research capabilities globally, marking a key component of its broader internationalisation strategy. This engagement is driven by mutual interests in academic exchange and collaboration, which serve as catalysts for enhancing Italy's educational and research outputs (Casarini, 2021). As a result, Italian universities have entered academic partnerships with various Chinese counterparts spanning a wide array of disciplines, as exemplified by the number of academic agreement signed. Up to date, there are 1042 research agreements between Italian and Chinese universities (MIUR, 2024). Among the various institutional partnerships, it's worth noting that back in 2012, Florence agreed to become home to the first Chinese university campus established outside of China, with the setup, in 2014, of a Overseas Campus of the Tongji University in the University of Florence. Additionally, in 2016, the two universities agreed to set up in Shanghai the "Shanghai International College of Intellectual Property". (Firenze Today, 2012; University of Florence, 2016; Pinna, 2025b)

In terms of mobility, Italy has developed two specific mobility programs, "Progetto Turandot" and "Progetto Marco Polo" . They are both agreements between the Italian and the Chinese Government to facilitate young Chinese students to study at Italian universities. The first focused on the study of arts, music and design and the second on all other disciplines (Universitaly, 2024; Pinna, 2025b).

China has also made substantial investments to facilitate cooperation and cultural exchanges with Italian academic institutions, including the establishment of numerous Confucius Institutes (12) and Confucius Classrooms (3) (Geopolitical Insights, 2022). Italian universities have experienced an influx of sponsorships from Chinese companies, notably in the information and communication technology (ICT) sector, such as ZTE and Huawei. (Casarini, 2021). The signing of the BRI MoU in March 2019 further underscored the significance of higher education, academic, cultural, and S&T collaboration. (Italian Government, 2019).

While this has enriched Italy's research capabilities, already in 2019 concerns have arisen regarding potential self-censorship and undue influence from Chinese interests, prompting questions about Italy's security interests and its alignment with Western allies (Scarpari, 2019).

Italy's relationship with China in higher education has been characterized by ambivalence. Despite the initial enthusiasm, subsequent developments, including the government's withdrawal from the BRI MoU, reflect growing concerns over knowledge and research security in the cooperation with China and a stronger alignment with the EU's position. Nonetheless, academic cooperation with China is considered essential for Italian universities as underlined by a government official, especially to tackle global challenges (Pinna, 2025b). During the China-Italy Intergovernmental Committee meeting in Beijing on September 4, 2023, both nations reasserted their commitment to reinvigorating their bilateral dialogue under the Global Strategic Partnership. The meeting highlighted the importance of their longstanding scientific and technological cooperation program, which has been actively supported by both the Italian Ministry of University and Research and the Chinese Ministry of Science and Technology for the past 13 years (MUR, 2024).

However, cooperation has shifted in its approach. There is not the same openness and cooperation needs to be justified although it remains unclear where responsibility should rely on. In this environment, misunderstandings are growing, sometimes caused by lack of cultural sensitivity. On the other hand, Chinese scholars are facing enormous pressure to deliver on the promise of national technological supremacy and independence, while the space for creativity especially in certain sectors is still missing or even narrowing. This doesn't help the building of trust neither the flourish of cooperation (Pinna, 2025b). While governance mechanisms of screening are not yet in place, also due to the novelty of the EC recommendation on research security (2024), nonetheless an increasing awareness regarding de-risking from China is documented in the economic sector and to some extent in the academic sector too to what concerns dual-use technologies (Assonime, 2024) Nonetheless, the push seems to be top-down driven signifying how the Italian government is following the steps of the EU and aligning with the bloc's position. However, on the ground, efforts by the Italian government to de-risk from China are facing significant resistance from key sectors, including business, local authorities, and also academia, all of which continue to deepen ties with Beijing despite official policies to reduce dependency (Casarini, 2024).

5.7 Conclusions and Recommendations for the Dutch Government on Academic Cooperation with China

In conclusion, as EU Member States navigate the complex landscape of academic collaboration with China, they are increasingly faced with the challenge of balancing the benefits of such partnerships against the potential risks to knowledge and research security. The educational policy within the EU allows individual countries to approach this balance in ways that reflect their national interests, academic strengths, and strategic priorities. However, this diversity of

approaches also means that there is no unified EU strategy for managing these collaborations, leading to a multifaceted and sometimes unaligned landscape of educational cooperation with China. By examining the strategies of selected Member States, such as Austria, Finland, Germany, Hungary, and Italy, valuable insights can be gained into how these nations are rebalancing the challenges and opportunities inherent in these partnerships.

Among the Member States analysed, the practices from Germany and Finland – the two countries that have already defined their strategy with China - can offer valuable insights for the Dutch Government as it shapes its policy regarding academic relations with China. From the case of Italy, the most important lesson to be learned is on the need for balance top-down strategies and bottom-up interests. While the case of Austria shows the importance of diversification and how China can be a partner among others. Finally, the Hungarian case raises awareness on the need to balance political alignment and values with international academic cooperation.

As such, the following recommendations have been highlighted:

Define Clear Institutional Objectives:
Encourage Dutch higher education institutions (HEIs) to clearly define their goals and expectations when engaging in partnerships with Chinese institutions. Ensure that these partnerships are reciprocal and aligned with the strategic interests of Dutch academia.

Enhance Risk Management and Transparency:
Implement comprehensive risk management frameworks to protect national sovereignty and research integrity. This should include transparency in decision-making processes, regular reviews of partnerships, and adherence to international standards on research security.

Strengthen Expertise on China:
Promote the development of deep expertise on China across Dutch HEIs. This includes understanding China's political, social, and academic environment to better navigate the complexities of collaboration.

Address Value Differences and Ethical Concerns:
Recognise and address potential conflicts arising from differences in values, particularly around academic freedom and institutional autonomy. Establish guidelines to ensure that Dutch values are upheld in all collaborations.

Protect Intellectual Property and Data Security:
Ensure robust protection of intellectual property and data security in all collaborative efforts. This includes safeguarding against cyber threats and potential espionage, particularly in research areas with dual-use technologies.

Encourage Mutual Transparency and Compliance:
Foster reciprocal transparency and ensure that all agreements are mutually beneficial and adhered to. Dutch institutions should monitor compliance rigorously to prevent exploitation and maintain academic integrity.

Ultimately, while the varied approaches offer tailored solutions, there is also potential for greater coordination and shared learning across the EU to ensure sustainable and secure academic collaboration with China.

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6. KQ1: China's Long-term Perspective on Scientific Collaboration with the EU

Yuzhuo Cai

This report addresses the following key research question (KQ) and its sub-questions:
KQ 1: What is China's long-term perspective on scientific collaboration with the EU?

- What motives, vision, and governmental policies are guiding Chinese universities and research organisations?
- How do Chinese universities perceive and analyse the changing internal conditions, external global dynamics, and shifts in talent flows and knowledge networks?
- How are they planning to operate within this evolving context?

The institutional logics perspective (Thornton et al., 2012) is employed as an analytical lens to interpret findings across the five work packages of the CKN project and to answer KQ1 and its sub-questions. Specifically, the three field-level logics—scientific, economic, and political—serve as essential pillars in legitimising international cooperation in higher education, including EU-China higher education partnerships (Cai & Zheng, Forthcoming). **Scientific logic** derives legitimacy from advancing knowledge and high-quality research, making collaboration essential to scientific progress. **Economic logic** frames legitimacy in terms of financial gains and market benefits, viewing collaboration as justified by its contributions to economic growth and talent development. **Political logic** anchors legitimacy in alignment with governmental policies and national interests, ensuring that partnerships adhere to state agendas and support diplomatic goals. Legitimacy, in this context, refers to the perception that an entity, action, or decision is appropriate, acceptable, or justified according to established norms, values, or laws. Together, these three logics provide a comprehensive framework for understanding the multi-dimensional motivations and tensions shaping China's approach to scientific collaboration with the EU.

6.1 Answers to KQ 1: What is China's long-term perspective on scientific collaboration with the EU?

China's long-term perspective on scientific collaboration with the EU is marked by a strategic commitment to sustaining and strengthening partnerships in the face of shifting global dynamics. This commitment stems from China's recognition of the EU's distinctive value as a partner in advancing scientific innovation, promoting economic growth, and contributing to geopolitical balance—particularly as tensions with the United States have intensified.

From an institutional logics perspective, China's strategies for scientific cooperation with the EU and the EU's strategies for cooperation with China reveal intricate underlying logics changes on each side, with the compatibility of their respective logics becoming increasingly strained (Table 1). Such analysis is presented in an forthcoming article.

Table 1: *Institutional logics underlying EU-China higher education cooperation*

	Growth Phase (1975-2002)	**Golden Phase (2003-2012)**	**Expanded Golden Phase (2013-2018)**	**Paradox Phase (2019-present)**
Institutional logics driving Europe's higher education cooperation with China	Initially driven by political logic and soon dominated by **scientific logic**	Dominant **scientific logic** coupled with a *rapidly* **growing economic logic.**	Dominated by **combination of economic logic and scientific logic**	Dramatic increase of **political logic** and a trend of declining economic logic and scientific logic
Institutional logics driving China's higher education cooperation with Europe	Initially driven by political logic and soon dominated by **scientific logic**	Dominated by **scientific logic** coupled with a *slowly* **growing economic logic**	Dominated by **combination of scientific logic and economic logic**	A growing **political logic** and willingness of maintaining its balance with market and scientific logic
Cross-region Compatibility	Very high	High	Very high	Low

Source: Cai & Zheng (forthcoming)

Below is an in-depth analysis of China's long-term perspective on scientific collaboration with the EU from the institutional logics perspectives, supported by evidence from multiple work package (WP) reports.

Scientific Logic: Scientific Advancement through Strategic Partnerships

China regards the EU as crucial for advancing its scientific and technological ambitions in key areas such as artificial intelligence, climate science, and biotechnology. Through collaborations with EU research institutions and universities, China seeks to meet or even exceed global standards in research output (WP1, WP2). For example, evidence from WP1 shows that China's scientific output has occasionally surpassed both the US and the EU, partly due to partnerships that include joint research initiatives and co-publications. Such collaboration directly supports China's goal of becoming a global leader in science and technology.

Economic Logic: Mutual Growth and Market Competitiveness

The economic benefits of EU collaboration are central to China's strategy. By engaging with EU-led research programs, China accesses advanced technologies and insights that strengthen domestic innovation and global market competitiveness (WP3). Additionally, WP1 highlights a shift in Chinese student mobility toward Europe, driven by economic factors like affordability and visa access. This movement supports China's goal of training skilled individuals who bring back expertise and foster stronger EU-China scientific networks (WP3). The economic value here aligns with China's broader objectives of establishing itself as a dominant force in global research markets. On the other hand, China is becoming more confident in the mutual benefits of value exchanges, driven by its growing status as a global economic and scientific power.

Political Logic: Managing Geopolitical Risks and Balancing Global Relations

With rising tensions between the US and China, collaboration with the EU has gained increased importance for China. The EU is seen by China as a relatively neutral partner, despite being increasingly influenced by US policies, making it a strategic alternative to direct partnerships with the US (WP2, WP4). This perspective is reinforced by China's active strengthening of ties with the EU through bilateral agreements, viewing the EU as a stable and 'trusted partner' for long-term cooperation in science and technology (WP2). WP4 further indicates that Chinese universities perceive the EU's cautious but receptive approach as more favourable than that of the US, supporting China's strategy of mitigating geopolitical risks while maintaining access to global research networks (WP4).

6.2 Highlights of China's Long-term Perspective on Scientific Collaboration with the EU

Long-term Knowledge and Talent Exchange Goals and Trust Building

China views knowledge and talent exchange with the EU as essential for creating a sustainable, globally integrated research ecosystem. Findings from WP1 and WP3 indicate that China actively encourages student and researcher mobility within the EU, not only to gain exposure to advanced research but also to develop enduring EU-China research networks that support long-term innovation (WP1, WP3) and build trust (WP2).

Adapting to External Pressures and Internal Needs

China's strategy involves balancing domestic goals—such as achieving technological independence—with addressing the EU's growing concerns around knowledge security and intellectual property (WP2, WP5).

China's Willingness to Negotiate Terms that Address EU Security Concerns

China is increasingly aware of the EU's emphasis on knowledge security and appears inclined towards adopting a partnership framework that is flexible and resilient (W2, W5). This approach aims to ensure mutual benefits while acknowledging the EU's security concerns.

6.3 Answers to Sub-question 1: What motives, vision, and governmental policies are guiding Chinese universities and research organisations?

China's motives, visions and governmental policies guiding Chinese universities and research organisations in scientific cooperation with the EU is shaped by a commitment to scientific excellence, technological innovation, and global competitiveness. This engagement aligns with the national vision of establishing China as a world leader in science and a global hub for education, which guide the country's strategies in joint research, talent exchange, and

international partnerships. The motives and guiding logics can be examined from scientific, economic, and political perspectives, supported by evidence from the WP reports.

Scientific Logic: Building World-class Universities through EU Collaboration
Chinese universities aim to build world-class research universities with distinct 'Chinese characteristics', viewing collaboration with the West as a critical path to achieving this ambition. Given the tensions with the US, Chinese institutions are keen to partner with EU counterparts to enhance the quality and global impact of their research output (WP2). This scientific motive aligns with government policies that prioritise joint research and innovation initiatives with the EU to improve research capabilities and technological advancements (WP3). The focus on collaboration with the EU underscores China's belief that these partnerships are essential for sustaining scientific progress and increasing the country's research standing on the global stage, facing intensified tensions with the US (WP1).

Economic Logic: Enhancing Skills and Competitiveness through Joint Programmes
Economic motives also play a pivotal role in shaping Chinese universities' engagement with the EU. Initiatives such as the Belt and Road Initiative (BRI) emphasise vocational education, skill development, and the transfer of technological expertise through international partnerships (WP5). By collaborating with EU institutions through joint education and research programmes, China seeks to develop a workforce equipped with skills and expertise that not only contribute to domestic economic growth and innovation but also enhance China's competitiveness in the global market (WP3).

Political Logic: Sustaining Diplomatic Ties through Education
Politically, the Chinese government designates the EU as a priority partner for scientific and technological collaboration, as evidenced in key agreements like the 'China-EU Science and Technology Cooperation Agreement' and 'China's EU Policy Paper' (WP2). These documents outline China's intent to maintain long-term strategic partnerships with the EU, supporting shared scientific and technological objectives while advancing China's broader geopolitical strategy to establish international alliances, balance global influence, and navigate complex geopolitical landscapes (WP4).

6.4 Answers to Sub-question 2: How do Chinese universities perceive and analyse the changing internal conditions and external global dynamics, particularly regarding changes in talent flows and knowledge networks?

Chinese universities approach the changing internal and external environments with a mix of scientific, economic, and political perspectives. Their perceptions are shaped by the shifting dynamics of international collaboration, evolving talent flows, and knowledge networks, especially as relations with the United States have cooled and the EU has become a more

prominent partner. Below is an analysis based on the scientific, economic, and political logics, drawing from the WP reports.

Scientific Logic: Maintaining Excellence through EU Partnerships

Similar to the governmental strategies, Chinese universities recognise the EU as a critical partner in maintaining and enhancing scientific excellence, particularly as collaboration with the US has declined in recent years. WP1 reports a positive perception among Chinese universities regarding the increasing frequency of co-publications with European researchers, indicating that EU partnerships are viewed as valuable substitutes for lost American collaborations (WP1). These institutions see European collaboration as an essential source of scientific progression, offering new avenues for research, knowledge exchange, and technological advancement (WP2). By focusing on building research alliances with the EU, Chinese universities aim to uphold scientific standards and expand their global influence in research.

Economic Logic: Mitigating Talent Risks and Optimising Partnerships

From an economic perspective, Chinese universities see significant opportunities in collaborating with European counterparts, especially in areas like joint research programmes, student mobility, and innovation partnerships. WP3 highlights that Chinese universities are particularly interested in joint degree programmes and industry-academia collaboration, recognising the EU as a valuable partner in strengthening human capital and advancing economic competitiveness through these engagements. However, universities are also aware of the potential risks tied to talent loss, as top researchers, especially international scholars including those from Europe, may choose to remain in the EU or other regions.

Political Logic: Navigating Geopolitical Caution and Building Trust

The political discourse within Chinese universities reflects a growing awareness of the EU's cautious approach towards scientific collaboration with China. WP4 notes that Chinese universities acknowledge an increase in mistrust from the EU, largely driven by geopolitical tensions and concerns over knowledge security. There is a recognition that to maintain productive partnerships with the EU, Chinese universities must navigate these security concerns carefully, building trust and demonstrating a commitment to shared scientific and educational goals (WP2).

6.5 Answers to Sub-question 3: How are Chinese universities planning to operate in the changing context?

In response to the evolving global context and changes in international collaboration, Chinese universities are facing challenges in adapting their strategies. While these plans are still being developed, it can be expected that Chinese universities will focus more on leveraging existing, trusted collaborations rather than initiating new partnerships. They tend to adopt an approach that sustains and strengthens their relationships with the EU while addressing the challenges

posed by geopolitical tensions. The following analysis explores the operational plans of Chinese universities through the lens of the institutional logics framework, drawing on insights from the WP reports.

Scientific Logic: Expanding Collaborative Research and STEM Initiatives

Chinese universities intend to reinforce their international research capabilities by intensifying joint research initiatives, co-authoring publications, and enhancing talent cultivation programmes in collaboration with European partners. WP2 highlights the emphasis on establishing joint research platforms that bring together Chinese and EU researchers to work on projects in areas like STEM, where European expertise is particularly valued (WP 2). Additionally, by increasing the number of co-authored publications, Chinese institutions aim to boost their global research impact and foster international academic recognition (WP1). This approach reflects a clear strategy to leverage the strengths of EU partners while building China's position in the global academic community.

Economic Logic: Strengthening Partnerships for global competitiveness

Economically, Chinese universities are focusing on expanding cooperative education programmes, joint degree offerings, and industry-academia collaborations with European institutions. For instance, WP3 notes that Chinese universities are actively developing joint degrees and vocational training initiatives with EU institutions, aiming to build long-term, mutually beneficial relationships that promote talent mobility and skill development. These efforts are geared towards creating sustainable economic benefits for both parties, with an emphasis on preparing a workforce equipped with the skills needed for future innovation and industry demands. WP5 further highlights the role of such partnerships in supporting China's broader economic goals, as they contribute to talent cultivation and enhance China's economic competitiveness on a global scale.

Political Logic: Fostering Bilateral Relationships amid EU-wide Caution

Chinese universities are also aligning their strategies with the Chinese government's political objectives by prioritising bilateral agreements with individual EU member states. WP4 indicates that, to mitigate the impact of EU-wide caution and security concerns, Chinese universities are fostering deeper, tailored relationships with specific European countries, emphasising mutual understanding and respect (WP4). This bilateral approach allows Chinese universities to maintain strong ties with the EU while navigating complex geopolitical dynamics. Additionally, the political discourse within these institutions underscores the importance of demonstrating commitment to shared values and objectives, ensuring that their partnerships remain resilient and cooperative in the face of geopolitical challenges (WP2).

6.6 Paradoxes in China's approaches to Scientific Collaboration with the EU

China's approach to higher education cooperation with the EU is shaped by several paradoxes as discussed below. These contradictions reflect China's broader struggle to balance its global ambitions with domestic priorities, particularly as it adapts to the distinct structures and expectations of European academia.

Paradox of Implicit Strategy vs. Rapid Change

China's approach to cooperation with the EU reveals a paradox between implicit strategy and rapid change. While the landscape for EU-China cooperation evolves rapidly, China's official strategies remain relatively vague, particularly in terms of guidelines for Chinese universities' engagement with European institutions. For instance, although Chinese universities are generally encouraged to actively pursue partnerships in Europe, they often lack detailed information on emerging concerns within the EU. This can lead Chinese universities to adopt overly optimistic views about the ease of EU cooperation, sometimes resulting in unrealistic ambitions. Additionally, the limited transparency in China's approach to EU cooperation often leaves European partners interpreting Chinese policies based on assumptions or incomplete information, which may not accurately reflect the situation within China. This disconnect complicates mutual understanding and creates further challenges in building effective and balanced partnerships.

Paradox of Openness vs. Control in Scientific Exchange

China faces a contradiction between openness and control in scientific exchange. While there is a strong need for openness to drive scientific progress, there is also growing pressure to control knowledge flow and safeguard sensitive information. Striking a balance between fostering international collaboration and adhering to domestic security policies is highly challenging for universities and individual researchers to manage in practice.

Paradox of Self-Reliance vs. Dependency on Western Expertise

China's goal of achieving self-reliance in scientific development contrasts with its ongoing reliance on Western, particularly EU, expertise and resources. This dynamic underscores a tension between China's desire for autonomy in research and technology and its current dependence on Western knowledge, especially in highly specialised fields. This approach not only creates confusion for Chinese stakeholders involved in European cooperation but also raises doubts among European partners about the long-term prospects of current collaborations, as China's priority on self-sufficiency may gradually distance international partners.

The Paradox of US-Centric Legacy vs. Europe's Growing Influence

Although Europe is playing an increasingly central role in China's higher education internationalisation efforts, much of China's collaborative experience remains focused on the United States. This historical reliance on American partnerships creates a learning curve as

China adapts its approach to align with Europe's distinct academic structures, expectations, and partnership models.

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7. KQ2: What in the EU-China context is particularly relevant for Dutch policies in HE and R&D?

Marijk van der Wende

This section draws on prior research by the author (Van der Wende, 2016; 2020), on the information gathered in the various Work Packages, and focuses on what in the EU-China context is particularly relevant for Dutch policies in higher education and R&D. Various modes (bilateral/multilateral) of collaboration, levels (Ba/Ma/PhD) of education and types of research (fundamental / applied) will be distinguished.

Background will be given on both China and the EU, before analysing the relevant elements of this context for the Netherlands. This is important as to understand the *key dimensions* of this context and the relationships therein:

- First, the long-term perspective of China as a country that stabilised and developed relatively early among global civilisations, counting in its long history some 3,000 years of science, discovery, and invention. Yet a not unbroken history, with the 1966-1976 period as notably destructive of its cultural and scientific heritage. Compared to the EU as a supranational political and economic union of 27 members, which emerged after the most painful of a series of wars on the continent and beyond in 1951 as the first step towards a lasting peace.
- Second, the Netherlands was among the six founding member states of the EU, counts long-time benefits from its open economy, and owes its top position in science thanks to international collaboration (Elsevier, 2024).
- Third, that the cultural and scientific ties between the Dutch and China date back to the 17th century (Weststeijn & Jonker, 2017), pre-dated even by the ancient Silk Roads for trade. And that China now (the People's Republic of China, PRP) is still the Netherlands' largest trading partner in Asia.

Nevertheless and despite this centuries-long shared history of trade, cultural exchange and scientific collaboration, the current relationship is quite negatively affected by (mis)perceptions and information issues (information asymmetry)[16]. Consequently, the lenses through with we view the relationship is quite different and we may thus be unaware of our own and each other's lense. This is further analysed in terms of different institutional logics in KQ1.

[16] Two examples to illustrate: Dutch views on STI collaboration with China have been strongly influenced by Western (US co-sponsored) information such as the ASPI's China Defence University and Critical Technology tracker, while this source is hardly accessible in mainland China, except for a few updates on Chinese news portals. Chinese counterparts would rather be guided by Chinese (social) media to consult on China's performance to the Global Innovation Index.
Vice-versa the transfer of Chinese information may be inadequate due to a lack of open sources and AI automated translation instead of "deep Sinology" interpretation. Hence *The Challenge of Getting China Right* (Brussee, 24.9.2024), a CKN initiative to explore how China and Europe understand each other and what role controlling information and knowledge plays in their relationship.

7.1 Background on China

Although the West may have had different expectations, China clearly always had and still has its own view on globalisation. A decade ago it emerged that China was not anymore to be considered as a follower, but also as a potential leader in globalisation, as well as in global higher education (Van der Wende & Zhu, 2016). Patterns of globalisation were changing, faster in Asia than elsewhere and the West thus had to improve its understanding of globalisation.

China's development was reshaping the global structure, but on a conceptually and ideologically different basis; "globalisation with Chinese characteristics". Dealing with China involves contextual differences. Enhanced exposure to globalisation is in China not paralleled by the same degree of deregulation and autonomy as is assumed in the Western globalisation paradigm. China's alternative globalisation paradigm combines practices of global competition, opportunity, and openness with tight regulation and state control. In higher education China is more open internationally than domestically. In governance it uses forms of devolved authority closely nested in a comprehensive state, rather than a limited state along Western lines. In universities it excercises dual leadership with a university president working alongside a party secretary (Van der Wende, Kirby, Liu, & Marginson, 2020).

China clearly holds to its own model of globalisation, changing its focus from sending students overseas to importing the international talent needed for its scientific, technological, economic, and social development in Chinese-style modernization (Wagner, 2024). Regaining its overseas students (see WP1), is a crucial part of this strategy for boosting innovation, enterpreneurship, employment and building China as a modern socialist country. People-to-people diplomacy and exchange are important for a strong country and national rejuvenation. International returnees in high-level CPC positions contribute to China's in-depth participation in global governance (CCG, 2023).

China's focus on importing talent and knowledge for boosting its own knowlegde economy is comparable to such strategies in developed knowledge economies, also often dependent on international talent. Even more so with a view to China's domestic demographic decline. It can thus be understood as a global competitor. But one with different ideas on how global competition (rules and regulations by the WTO) and global governance (institutions such as the UN, based on universal rights and values) should be shaped. The expected convergence between China and the West did not happen; China's integration into the global sphere worked out differently and it is adding alternatives to existing global institutions[17]. Meanwhile, as shown in WP1, China's technological successes are undeniable.

Pushing beyond its "Made in China 2025" strategy into becoming a global power in space by 2045, its STI is increasingly geo-political and geo-strategic in character. In its recently (October 2024) released first ever medium- to long-term space science plan, China outlines its space science research to 2050. In its ambition to become a "world space power" as an alternative to

[17] Examples are the Shanghai Cooperation Organisation (SCO) and the Asia Infrastructure Investment Bank (AIIB).

the US, it would focus its global cooperation in this effort particularly on collaboration with countries in the developing world (Sharma, 2024a).

China's global partnerships considerably shifted since 2017, in the wake of the anti-China first Trump election campain, a consequent US-China trade war, and the EU's turn to strategic autonomy. Changing further since the Russia-Ukrain war started in 2022, strenghtening China-Russia connections, with both a growing engagement with the Global South, and the BRICS expanding (now larger than G7). In this highly uncertain global context, China is seeking autarky in energy, hence the Russia connection, and indepence in STI.

These changes are reflected in shifting flows of international talent and knowledge in and out of China, as illustrated in WP1. And in adjusted national higher education and R&D policies, focusing more on Europe, the Global South, and BRICS (see WP2). Though (as yet) not dramatically, or perhaps just implicitly, changing university policies (see WP3), in which the Netherlands is seen as part of and an important gateway into Europe.

7.2 Background on the EU

EU-China relations in scientific research collaboration emerged shortly after the cultural revolution with the first official diplomatic relations established between the EEC and China in 1975. With the adoption of Deng-Xiaoping's economic reform and open-door policy (1978), a period of growing Sino-European collaboration in STI continued, with increasingly closer forms of collaboration, resulting in shared roadmaps, joined programming, and agreements on international scientific standards (Van der Wende, 2020, p. 35-41).

Collaboration in higher education between the EU and China emerged only in 1997 with the EU–China Higher Education Cooperation Program. It was extended under the ERASMUS Mundus program (2004), open for graduate students from around the world, including China. A series of "policy dialogues" further built up cooperation in (higher) education, training, culture, multilingualism, and youth. A platform for Cooperation and Exchange was created alongside the EU–China Tuning project on learning outcomes (2014). In 2015 the EU opened the entire ERASMUS+ program for China (ibid, 41-43).

The difference in the EU's action between research and education is explained by its legal competencies in both fields. As laid down in the EU Treaty, it has a shared competency in research (EU and EU countries are able to legislate and adopt legally binding acts, Art 4, TFEU), while in education it only has a supporting competency (EU can only intervene to support, coordinate or complement the action of EU countries, Art 6, TFEU). Collaboration in education, until 1997 exclusively carried out on a bilateral basis between individual member states (notably Germany and the UK) and China, could thus not be replaced by EU action. Notably in the area of mutual recognition of academic degrees, for which China started pushing around the turn of the millennium, agreements can only be achieved on a bilateral basis between China and an EU Member State (Ibid 33-35).

No balanced EU-China relationship was achieved in either research or education, both characterized by persistent imbalances in flows (students, researchers, funding) and a strong bias towards STEM. Moreover, divergence rather than convergence occurred in sensitive areas around data access, sharing, and privacy. A growing dilemma in relation to the EU's continued promotion of open access and open science, and feeding into concerns about academic freedom and research integrity in China. Concerns also grew over the use of AI in relation to personal privacy under civil and human rights law, and an uneven playing field for technology transfer inconsistent with WTO rules regarding market access and IPR (Ibid 53-57).

In response to rising geopolitical tensions and fuelled by the US-China trade war, the EU's global strategy shifted from "open to the world" to "strategic autonomy". After almost 30-years of growing dialogue, partnership and increased openness in R&D and higher-education cooperation, the EU turned away from China as its "most important strategic partner" (2018), to labelling it as a "systemic rival promoting alternative models of governance" (2019). Strategic autonomy was widened in 2020 to include technology, research and innovation. Consequently, barriers were erected for participation in EU research projects against Chinese and US companies to avoid unwanted knowledge and technology transfer. Toolkits to mitigate foreign interference in research were developed and the regulation on dual-use export control was enhanced, leading to binding regulation for EU countries and internal compliance requirements for universities through "knowledge security guidelines". These actions were partly executed under the EU's shared competency in research (see above), but for export control notably under the EU's exclusive competency in trade (Art. 3, TFEU, which implies that the EU alone is able to legislate and adopt binding acts), clearly putting the EU's openness, its open science approach, in a different perspective (Van der Wende, 2024).

This assertive role of the EU was supported by Member States' requests for it to level the global playing field for scientific cooperation and to protect it against foreign interference from countries where academic freedom, research integrity, data security, and intellectual property rights would not be at EU standards, or could be used also for military purposes (dual use), or infringe human rights. Knowledge security measures were implemented in a range of countries including the Netherlands (2022), Denmark, Finland, Germany, Sweden, and the UK (see WP5 for further details and analysis of Finland and Germany among other countries).
This paradigm shift from openness to security led to concerns about university autonomy and academic freedom being at risk. But despite requests by European universities (referring to Art 13 of the Charter on Fundamental Rights of the EU (CFREU), the EU is not able to effectively protect academic freedom within the EU. In fact, the EU admits that: "*Academic freedom is a fundamental right guaranteed by the CFREU, however, not exempting researchers and research organizations from complying with regulations that are established to safeguard the security interests of the EU and of its Member States. [Here] research disciplines within Science, Technology and Engineering are more likely to be affected by dual-use export controls than academic activities in Humanities, Social Sciences and Economics*" (EC, 2020).

The European Parliament signalled the de facto erosion of academic freedom in the EU (EP, 2023a) and initiated a process to better define and monitor it within the EU (EP, 2023b). Yet it is uncertain how the EU could more effectively protect it (beyond its co-signature of the Bonn Declaration on the Freedom of Scientific Research, 2020), given its limited competencies in higher education.

Over the last few years, the EU has been struggling to find its position in-between the US and China, trying to define it in terms of "open strategic autonomy" and "de-risking" in stead of "de-coupling". Since Covid and the Russia-Ukraine war it seemed to be holding back on a clear China strategy. EU members are divided over relations with both China and Russia (see also WP5).

Although the EU-China sanctions and countersanctions (2018), are not as comprehensive as the EU's economic sanctions, including diplomatic measures and visa measures, on Russia (various packages since 2022), the conditions for investment and collaboration with China remain uncertain. Hence the drop in academic mobility towards China (see WP1) and hightened risk-avoidance in universities, even though many academics understand the need to engage with China.

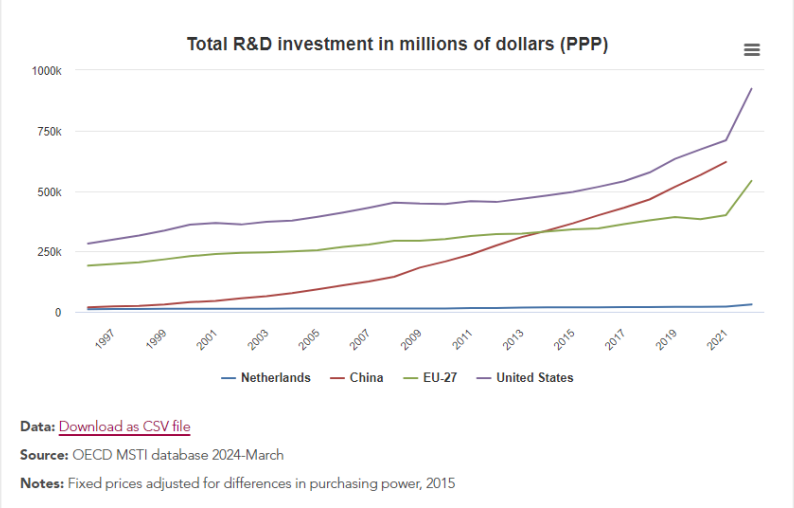
The focus of the new European Commission is not fully developed as yet nor is the impact of the second Trump presidency for the USA, starting early 2025[18]. Although China remains the strategic top priority for the USA, it remains to be seen whether this will drive China and the EU further together or apart and what this will imply for the cohesion between member states within the EU. Yet it can be expected that the EU's enhanced focus on security, including the newly acquired coordination of defence capacity, will be continued. It is often said that the development of the EU is crisis-driven. Indeed, Covid and the Russia-Ukraine war extended the EU's role into policy areas where it had hitherto be minimal; health, energy, security, and defence. Its R&D strategy could go along with that, given the strategic importance of STEM and the EU's relatively strong competence in research. This will enhance defence-related R&D. However, with a view to the outcome of the 2024 European elections, it cannot be expected that the EU's competence in education will be enhanced.

Obviously, also China is struggling with these geo-political uncertainties, expressed as "The Paradox of US-Centric Legacy versus Europe's Growing Influence" in KQ1.

In any case, the EU's relationship with China needs revision. One the one hand, it cannot ignore China's global weight in science (see WP1), as supported by growing investments in R&D (see figure 1). Equally, it cannot ignore the need to continue collaboration in areas critical to solving global challenges in climate change, energy transition, sustainability, and health, among others.

[18] The time of writing of this report was November-December 2024.

Figure 1: *Total R&D investment in millions of dollars (PPP) (source Rathenau based on OECD, 2024)*



Moreover in fundamental research, in which the West is strong, global collaboration is continued. A major example is ITER, a megaproject to create energy through nuclear fusion hosted in the South of France in collaboration with China among other non-EU countries.

To illustrate further, within the G20, of which both the EU and China are members, the S20 (the national academies of science of the G20 members) develops science advice for the G20 in areas such as Artificial Intelligence, Bioeconomy, Energy Transition Process, Health Challenges and Social Justice. The Academy of Europe has recently been accepted to join the S20.

On the other hand, it is acknowledged that China is leading in sensitive and strategically important areas, such as AI, an area in which Europe is lagging behind other power blocs, affecting not only its scientific but also its economic position. Or that it may change partnerships against EU's security interests. For example the so far successful European-Chinese cooperation in lunar exploration (ESA-NILS), which will be discontinued when China choses to partner with Russia in the next phase, while space cooperation with Russia is at present under embargo in the EU (sanction regulation).

This all points to the need for the EU to come to grips with China's new attitude regarding its own autonomy (autarky) and its focus on basic research for self-reliance in science and technology (Gov.CN, 2023) (see also WP2). And with respect to its stand towards the EU, where China tends to adopt an intentional bilateral approach, as illustrated by Xi's last visit to France and Hungary exclusively (the EU President could only be present through invitation by the French President). Vice-versa the EU actions towards China need to be coordinated better. Recent visits to China by Heads of State or Government (e.g. Germany, France, Hungary, and also PM of the Netherlands) did not necessarily bring a consistent EU message.

The Draghi Report on Europe's competitiveness, released early September (EC, 2024), is expected to be influential for the next phase. With respect to China, the Dutch Commissioner (Hoekstra) commented at the occasion that "*China is challenging us in such a fundamental way*

that it would be naive to deny that Europe has a China problem", stressing that while the bloc was not planning to cut ties with China, it would have to act to redress the balance if competition remained unfair (Euronews, 2024). Indeed, the Draghi report, focusing on inclusive economic growth, sets out to tying together sustainable competitiveness, economic security, open strategic autonomy, and fair competition.

Analysts point out that a critical look at Europe's innovation capacity is indispensable. In fact, as stated by Holslag (2024), Europe's criticism on China's (obnoxious) economic nationalism may actually obscure its own inability to reform. Instead the EU should focus on itself and get its act together.

7.3 Relevance for Dutch policies in higher education and R&D

Background on both China and the EU, as sketched above, is highly relevant for the Netherlands, a historic partner for China and founding member of the EU, known for its open economy, open higher-education system, and strong advocacy for open science. Not to forget its strong alliance with the US. Like many other countries the Netherlands is rethinking and revising the balance between openness, freedom, and security[19]. Alerted by signals from the US and enhanced EU action against foreign infringement, it became aware of the rising security risks in the knowledge sector and introduced National Knowledge Security Guidelines in 2022.

The Netherlands seems rather strongly US-influenced in this area, while the US-interest and attitude to China is not necessarily aligned with that of the EU, where also its Member States differ among each other in this respect. As shown in WP5 and discussed under KQ3, the Netherlands' position in this respect is closer to that of Germany and Finland than to some other Member States located more towards the South and East of Europe (e.g. Hungary and Italy).

Despite the Dutch long-standing and usually quite pro-active membership of the EU, collaboration with China tends to be mostly discussed in bilateral terms (NL-China). Yet the increasingly tense geopolitical context, would urge for a more EU-aligned approach[20]. This would in its turn require a better understanding of the role and different competencies of the EU in different policy areas (education, research, trade), as explained above, in order to effectively navigate the EU's "competencies conundrum" (Garben, 2015). The enhanced dual-use export control regulation (2021), based on the EU's strongest (exclusive) competency (in trade), potentially reaches into research and education, areas in which its competencies are weaker.

Universities seem to be struggling with the compliance requirements related to such dual-use control regulation, as well as to national knowledge security guidelines, as these may be

[19] A letter to Parliament by the Dutch government on the developments in Dutch-China relations was published after this report was drafted Kamerbrief ontwikkelingen Chinabeleid | Kamerstuk | Rijksoverheid.nl 13 December 2024.
[20] This approach is indeed underlined in the letter to Parliament mentioned in footnote 19. See also under "Recommendations"

difficult to scope in terms of breadth. De-risking becomes hard since due diligence is complicated by vague definitions, resulting in grey areas (Sharma, 2024b). Uncertainty leads to "better safe than sorry" behaviour (possible overcompliance), especially with respect to obligations to exercise due diligence on possible human rights violations.

Moreover, sanctions may affect both universities, research institutions as organisations, as well as the individual researchers working there (liabilities and interference with labour law still by and large unforeseen). In the Netherlands a case arose between Netherlands Institute for Human Rights and Twente University around the required screening of individuals involved in teaching programs (SG 2024).

Early research on the impact of such EU-imposed dual-use export regulation on universities revealed that it may negatively affect academic freedom, as laid down in the EU Charter on Fundamental Rights (Article 13)[21]. Any limitation on rights and freedoms as recognised in the Charter must be provided by national law, specific to Member States as they grant export licenses. Variation may thus be expected. With respect to Art. 13, the Netherlands is seen to be only in "partial compliance", since academic freedom is as such not anchored in the Dutch Constitution, but only loosely referred to in the Higher Education and Research Act (WHW, Art. 1.6), stating that it should be respected at higher education institutions, without further defining the matter (Stalenhoef, C., M. Kanetake & M.C. van der Wende, 2022).

A downward trend for academic freedom in the NL was signalled already in 2016, especially related to its weak legal protection, and was confirmed in 2023 as below EU average (rank 24) (EP, 2023). The Academic Freedom Index 2023 confirms the situation (a score well below all major EU Member States).

While the Netherlands may have issues in protecting academic freedom at home, while often criticising China for it, it clearly wishes to remain open and globally engaged. Yet increasingly aware that its openness is being challenged and considering China as the greatest threat to Dutch knowledge security (AIVD, MIVD & NCTV, 2022). This illustrates the dilemma of re-balancing openness, security, and freedom. A dilemma which is most prevalent in knowledge sectors, especially in institutions where academic freedom shall be respected.

Aiming to rebalance, the Dutch government re-emphasized its strategy towards China from "open where possible, protect where necessary" , to "protect where necessary and invest in technological leadership"[22]. Economic security and digital open strategic autonomy became buzzwords – more so than de-risking (Onako-Heijmans & Kranenburg, 2024)[23].

[21] EUCFR Art 13 - Freedom of the arts and sciences. *The arts and scientific research shall be free of constraint. Academic freedom shall be respected.*
[22] Government of the Netherlands (2019) *The Netherlands & China: a new balance | Policy note | Government.nl*.
[23] The latest Governmental update (December 2024), see footnote 19, still reflects the intention to stay "open where possible".

While working on adequate legal and funding instruments to protect strategically important technology, knowledge and innovation from undesirable influence and unwanted transfer, the former Dutch government signed a new Memorandum of Understanding with Chinese Ministry of Science and Technology in 2023, aimed at collaboration to address global challenges such as climate change, energy transition, food scarcity, aging populations, and the need for medical research (NiN, 2023). In this statement, the Netherlands positively recognises the pivotal role of scientific collaboration with China, its contributions to advancements in these fields, and recognises China as a crucial business partner.

This position was further confirmed by the PM's visit to China with an agenda on trade and investment in early 2024 (see also WP2). Business and trade provide a strong basis for the relationship, on which STI can build, although there is obviously a risk in making the research agenda dependent on economic interests.

The definition of sensitive research areas, cannot not be just dominated by concerns on competitiveness (economic protectionism). Research security measures should be consistent, aligned with EU and UN sanctions, proportionate, differentiate between fundamental and applied research, and safeguard institutional autonomy and academic freedom in universities (KNAW, 2023).

In this sense, the Netherlands has first and foremost work to do at home. Awareness of the fact that its own values are at stake and that potential risk avoidance (overcompliance) may cause undesired spill-over effects from high-risk into low/non-risk research areas. Such possible effects were illustrated above in relation to due diligence on possible human rights violations and the screening of individuals.

In this respect, it is positive that the new Minister of ECS recently announced a more fine-grained approach to the delineation of sensitive knowledge and technology areas, to be developed in consultation with knowledge institutions. And more careful methods for screening of individuals safeguarding legal equality and preventing discrimination. Knowledge security guidelines will be regularly evaluated and updated, good practices will be shared in learning communities (TK, October 2024).

This type of approach could help the Netherlands to develop what is emerging as "Responsible internationalisation".

Responsible internationalisation

The dilemma of re-balancing openness, security, and freedom is also reflected in a recent report on *Geopolitical tensions and international knowledge cooperation,* by Norwegian Directorate for Higher Education and Skills directorate[24]. It states that decisions about international partnerships or collaborations in the context of security-related

[24] Report puts academics at core of security-related decisions, UWN, December 2024.

concerns should be taken “as close as possible to the affected academic communities”. “Yet universities could not and should not take the place of the security services”. *“What is essential is that universities build competence for responsible internationalisation and that this competence is developed throughout the organisation – from the leadership level to the individual faculty and staff. Only with such competence at hand will we be able to strike the right balance between openness and security.”*

“We must also accept that while there are risks of collaboration, there are also risks of non-collaboration. We will not be able to address climate change, pandemics, or other human and global challenges without international partnerships based on free flows of knowledge and ideas,”

“Securing research security requires that researchers and higher education institutions be entrusted with this task, in the name of institutional autonomy and academic freedom”.
*The KNAW recommendations can be recognized here.

Awareness is also needed in that restricting academic collaboration and exchange risks a weakened information position on China (“China intelligence”) and raising a “China-ignorant generation”. WP1 presented the weak number of Dutch students studying in China. Moreover, the number of chairs in Chinese or China studies in the Netherlands is negligible and the number of students therein consequently very low. At secondary level, the number of pupils learning Chinese for their finals (HAVO/VWO) seems to be decreasing after a decade of steady growth (from 288 to 269 in 2021; data Nuffic Network China). Experts state that more generally China studies is not developing well in the West. The bar would be too low on mandarin capability, while academics in China are pushed for more publishing in Chinese. Weakened “China intelligence” and a “China ignorant” generation lacking the ability to understand and collaborate, will have serious and long-term consequences, which may well be regretted by future generations.

As said before (see also WP1, section 4), it is too early to conclude on multi-polarity, de-coupling, or de-risking. Much will depend on ongoing events within and around the EU, notably Russia – Ukraine war, middle-east conflict, and the impact of the new US Presidency. And not at least on the policies of the new led by a far-right Dutch government, which seem to tone down on the EU and harm investment in HE and R&D. Finding a new balance in conditions for security on the one hand and academic freedom on the other will especially in this unstable context be a continuing effort.

Hence the importance of not “entrenching behind the dikes”, but to make the Netherlands geopolitically robust and to recalibrate the Netherlands' commitment to multilateral cooperation (WRR, 2024). At the same and realistically, war always means growth in defence-related R&D, hence a revised view on openness. The concept of strategic autonomy is borrowed from security and defence policy, after all. We will see how open that can be. Yet it aims to

defend and uphold our democratic values and that includes academic freedom (van der Wende, 2024).

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8. KQ3: What can be learned from other EU countries in terms of rebalancing challenges and opportunities in collaboration with China

Peter Gill

This section presents key learnings for rebalancing challenges and opportunities in collaboration with China, in particular the practical frameworks (directives) that could guide towards conditions for sustainable EU-China collaboration.

As stated in Work Package 1: *Trends in international talent and knowledge flows in/out China*, collaboration globally and with China in particular remains pivotal for solving global challenges and SDGs, in domains like climate change, energy transition, sustainability, and health, among others. As CEO Johan Feenstra of SMART Photonics is warning: "*The sanctions against China confirm that Western countries want to do everything themselves. If we close our eyes to the Chinese, they will surpass us*."[25]

As to guide the necessary rebalancing of challenges and opportunities, in this section the ***China Partnership Navigator*** (CPN) framework will be applied for the position of the Netherlands regarding China in relation to higher education. The CPN framework was developed based on the key lessons on rebalancing challenges (risks) and opportunities in collaboration with China learned from relevant EU countries (see WP5). It takes the EU context (see KQ2) into account and benefits from the extensive experience in TUDelft. The CPN framework aims to be a tool for governmental and non-governmental actors (ministries and universities) to support balanced and sustainable collaboration.

For the CPN framework, it is first of all important to understand the EU's stance on China relevant to higher education. More in particular the EU's recognition of the need to enhance expertise on China in a world with increasing geopolitical risks. Below, we illustrate how while economic security is gaining increasing focus since 2019, the EU has been investing in enhancing expertise alongside knowledge security.

- The March 2019 ***EU-China Strategic Outlook*** (EU-China Strategic Outlook: Commission and HR/VP Contribution to the European Council 21-22 March 2019) which identifies China as both a partner and a systemic rival, stresses the need to ensure the long-term competitiveness of EU businesses, especially in sectors with unequal market access. It also underscores the importance of the ***Horizon Europe*** programme to keep the EU ahead in global research and innovation amidst this rivalry. Under the Horizon programme, various projects have been initiated, such as ***ReConnect China*** *(*About – Reconnect China, n.d.), which addresses the question in which domains EU collaboration with China is desirable, possible, or impossible.

[25] 'De sancties tegen China zijn een bevestiging dat westerse landen alles zelf willen doen – Als we onze ogen sluiten voor de Chinezen dan gaan ze ons zo voorbij' Financieel Dagblad, August 31st 2024

Another example is ***CHERN*** (CHERN, n.d.), the China in Europe Research Network, a EU-COST action platform for knowledge exchange about China's increasing presence in Europe among academic and non-academic communities.

- In the EU's ***Global Approach to Research and Innovation*** (Global Approach to Research and Innovation, 2024) from May 2021 China is viewed as both an ally and a competitor, making balanced, value-driven collaboration essential. It emphasises securing reciprocal partnerships and participating in EU initiatives to guide cooperation with China.
- In 2022, the EU issued the document ***Tackling R&I foreign interference*** (Publications Office of the European Union, 2022) which outlines a comprehensive strategy to address foreign interference, focusing on values, governance, partnerships, and cybersecurity, and includes a list of potential measures to help higher education institutions and research organizations create tailored strategies.
- In February 2024, the ***European economic security strategy*** (European Economic Security Strategy, 2024) was adopted which covers key areas of attention grouped into: values, governance, partnerships and cybersecurity.
- Early 2024 ***EuroHub4Sino*** (EuroHub4Sino, n.d.) was launched, aimed at building a community of European China experts and stakeholders and managing a virtual information platform able to provide independent European policy research and analysis on contemporary China.

The above illustrates how the EU is aiming to combine enhancing knowledge security with building China expertise. This is an important component for the ***China Partnership Navigator.***

The CPN is furthermore based on the findings from Work Package 5, which investigates how selected Member States, such as Austria, Finland, Germany, Hungary and Italy are approaching the balance between benefiting from academic collaborations with China against potential security risks. It found Finland and Germany standing out as best practice approaches most relevant.

The table below highlights the positions of the Netherlands, Finland, and Germany regarding China in relation to higher education. For detailed perspectives of these three countries please refer to Appendix A.

Netherlands
In recent years, the Netherlands has actively implemented risk-reduction measures, highlighted by the April 2022 ***National Knowledge Security Guidelines*** (Ministerie van Onderwijs, Cultuur en Wetenschap, 2022): 1. Preventing the transfer of sensitive knowledge and technology that could threaten national security. 2. Protecting against covert foreign influence in education and research, which can endanger academic freedom and social safety. 3. Tackling ethical issues in collaborations with countries that do not uphold fundamental rights.
Finland
Finland's approach to China is undergoing major changes. The tone has gradually become more critical among most stakeholder groups. In 2022 the Finnish Ministry of Education and

Culture issued ***Recommendations for Academic Cooperation with China*** outlining strategic approaches and guidelines for Finnish HEIs and research institutes engaging in academic partnerships with China, which outline:

1. Respect for academic freedom and integrity
2. Security and safety considerations
3. Maintain competitiveness

Germany

Risk awareness has moved to the centre of Germany's China debate. In January 2024, DAAD published ***Academic cooperation with China: a realistic approach*** (Deutscher Akademischer Austauschdienst, 2024) that serves to redefine Germany's position focus on leveraging opportunities from cooperation with Chinese partners while considering the wider political, financial, and strategic environment and sets out three guiding principles:

1. Institutions should define their own interests and develop symmetrical relationships
2. Develop expertise on China
3. Minimise risks and create transparency

In March 2024, the German Federal Ministry of Education and Research issued a ***German Federal Position paper on research security in light of the Zeitenwende*** (Federal Ministry of Education and Research, 2024). Key dimensions described include improving process efficiency, enhancing knowledge, and leveraging synergies.

The seven guiding principles outline:

1. The importance of international collaboration to address global challenges
2. Protection of academic freedom for scientific progress
3. Uphold self-regulation within the scientific community
4. Proportionality, balancing openness in research with necessary security
5. A collaborative government approach
6. A country-independent focus on reciprocity
7. Continuous evaluation

8.1 Key learnings rebalancing challenges and opportunities in collaboration with China

The key lessons derived from Work Package 5 as relevant for the approach of the Netherlands, are integrated below into a framework distinguishinging the role of Ministries and Universities and categorized into three parts for sustainable Dutch - China collaboration: ***China Partnership Navigator (CPN)***.

1. **Institutional Objectives and Partnerships:** Focus on setting clear goals, developing expertise, and fostering balanced and reciprocal collaboration.

For Universities: Define clear Institutional Objectives	▪ Set clear institutional objectives ▪ Build balanced partnerships ▪ Enhance integration and exchanges ▪ Ensure reciprocity in research

For Ministries and Universities: Develop Expertise on China	▪ Strengthen China expertise ▪ Support individual learning ▪ Foster active collaboration ▪ Ensure institutional independence ▪ Encourage open dialogue

2. **Risk Management and Transparency:** Address the importance of managing risks, ensuring transparency, and protecting intellectual property and data security.

For Universities: Minimise Risks	▪ Keep track of partnerships (Bakker et al., 2024) ▪ Implement due diligence (Guidelines on Knowledge Security - Safeguarding Science, 2024) ▪ Establish clear processes ▪ Follow a rules-based approach
For Ministries and Universities: Protect Intellectual Property and Data Security	▪ Guard against government influence ▪ Protect against data breaches ▪ Enhance cybersecurity

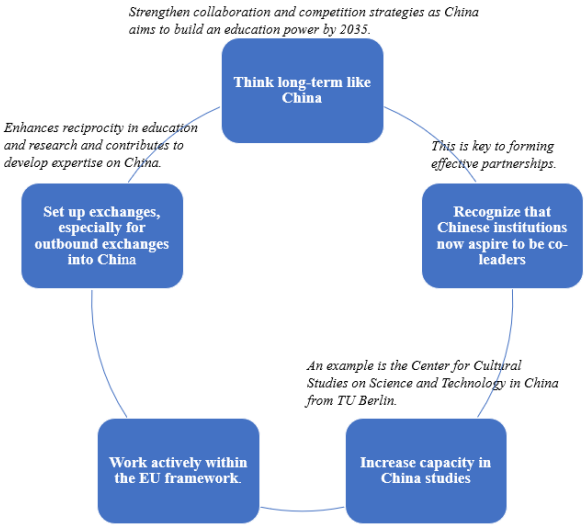
3. **Ethical Considerations and Security:** Emphasise the need to maintain academic integrity, uphold ethical standards, and address security safety concerns.

For Universities: Respect for Academic Freedom and Integrity	▪ Uphold ethical standards ▪ Maintain academic integrity ▪ Insist on reciprocity
For Universities: Security and Safety Considerations	▪ Ensure personal safety ▪ Ensure transparency ▪ Monitor Dual-Use technology and Export Control Compliance (Ministerie van Algemene Zaken, 2023)
For Ministries : Security and Safety Considerations	▪ Prioritise national security (Ministerie van Onderwijs, Cultuur en Wetenschap, 2024) ▪ Net clear Export Control, Dual use and guidelines for 'no-go' area's for sensitive technologies.

Based on these key learnings, the following pragmatic considerations for Dutch institutions can be grouped under the same three categories used in the ***China Partnership Navigator***:

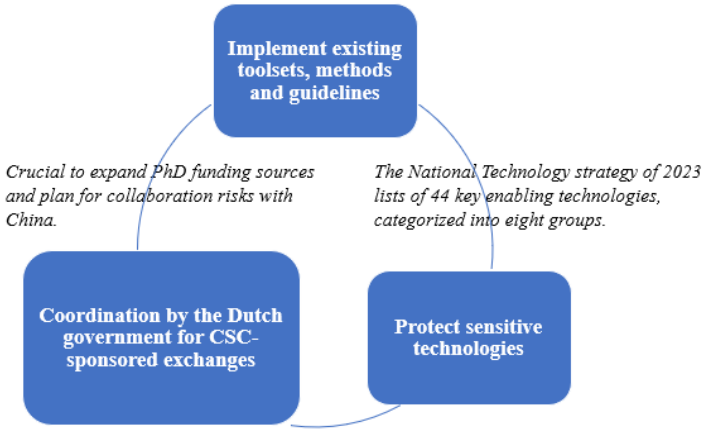
1. Institutional Objectives and Partnerships:

How can Europe adapt to a new world power that upholds different values and strategies?



2. Risk Management and Transparency

'Failing to prepare is preparing to fail'

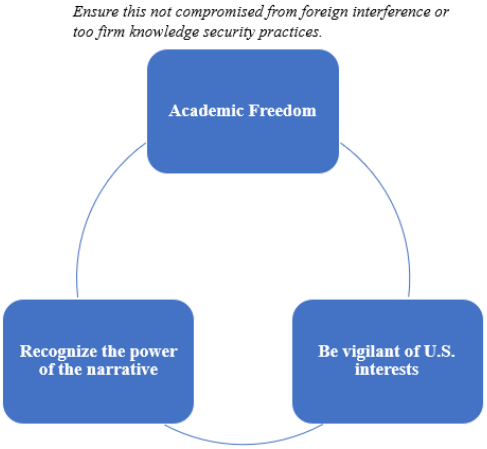


The Partnering Tools *as per the Loket Kennisveiligheid for Dutch academic institutions are designed to help select, negotiate, manage, and evaluate partnerships address many elements of China Partnership Navigator:*

The Moral Enquiry method *(Frerichs, 2023) as a pilot project at Delft University of Technology, in which a committee was to focus on weighing up current, complex proposals for collaborations with external (Chinese) partners may also prove to be valuable in weighing collaboration with Chinese institutions.* ***The Knowledge Security Guidelines*** *(Redactie, 2022) as used at Delft University of Technology are a practical tool, containing a traffic light system, in which three groups are distinguished based on the legal framework (red), risk controls (orange) or no collaboration barriers (green).*

3. Ethical Considerations and Security

'Ensure security, manage interests, and control the narrative'



To conclude

It is important to keep in mind that, while US interests play a dominant role in the geo-political context, and are strongly influencing Dutch partnerships, these do not necessarily align with EU interests. For example, the Australian Strategic Policy's Institute China Defence Tracker (ASPI The China Defense Tracker, 2019), partially funded by the USA (8%, 15%, 12% , 20% in the last four financial years (ASPI Funding 2022 - 2023)) rates China's highest rated University, Tsinghua University as very high risk. In such cases, care should be taken to avoid blanket no-go decisions on all research topics, particularly those with minimal or manageable knowledge security risks.

In recent years, the narrative has become antagonistic, leading to excessive risk avoidance in the academic world. While risk management remains crucial in today's environment, institutions should also focus on actively managing academic freedom (see also Key Question 2) and fostering collaborative opportunities in fields which the Netherlands and China have agreed upon on topics like the circular economy and climate (Tuente, 2023).

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9. Outcomes of the study: considerations and recommendations

As a summary of the main insights gained from the study and in regard to our Key Questions, this section presents first a set considerations on ***Changing Perspectives***.

Based thereon we then propose a set of provisional recommendations – ***Towards conditions for sustainable EU-China collaboration***.

Considerations: about thinking long term and embracing complexity

- The need to *think long term,* i.e. to take a 2030-2050 time horizon, such as for SDG's, and the Paris Climate Accords, and like China does (e.g. its Space Science plans).
- To realise that *history matters*. The Netherlands and China share a long history and China will also play an unavoidable role in the global future. Our current decisions on collaboration, research and education will determine the future of next generations and their planet (KQ2).
- That the Netherlands changed quite swiftly from "China-fan" to "China sceptic"[26] or perhaps even antagonist, which may not be easily understood by Chinese counterparts. That *antagonistic language can be harmful* for institutions, individuals, trust and (in the end) security (KQ3).
- To be aware that the *complexity* of balancing openness, security, and freedom in knowledge sectors is a real dilemma. Especially in collaboration with China, further complicated by different Western-Sino *logics,* inherent Chinese *paradoxes*, and *uncertainties* around a US-Centric legacy versus Europe's growing influence (KQ1).
- That our own (Western) *values* are at stake. Assuming these as universal and criticising China along this yardstick, may blind us for our own weaknesses. This may pertain competitiveness, innovativeness, as well as the protection of *academic freedom* and institutional autonomy in the Netherlands (KQ2).

[26] M. de Jong. *Angst voor China; van heel gewenst naar heel risicovol*. Blad van Vereniging Nederland China, oktober 2024.

Recommendations[27]: we have foremost work to do at home

1. **Strengthen** expertise on China, as part of efforts to make the Netherlands geopolitically robust and to recalibrate the Netherlands' commitment to multilateral cooperation, instead of "entrenching behind the dikes"[28] (KQ2):

- Enlarge the number of chairs in China studies in Dutch universities
- Establish China Study Centres in universities that collaborate closely with China. A good example is the Center for Cultural Studies on Science and Technology in China at the TU-Berlin.
- Send more Dutch students and PhDs to study in China and researchers to do collaborative research in and on China, including Hong Kong SAR (as a place to study China) and to ensure that the next generation is "China intelligent" instead of "China-ignorant".
- Keep up with China's development as a science nation, its position globally and vis a vis Europe, e.g. keep tracking leading Chinese universities (see WP3) in terms of investments, policies, alliances, scientific progress, innovation etc. and monitor the development of China's 15th 5-year plan.

2. **Differentiate** knowledge security measures with respect to disciplines and types of higher education institutions. Promote the development of *responsible internationalization*:

- Stimulate research into definitions and the conceptual basis and tools for knowledge security[29]
- Clearly delineate the high risk areas with clear knowledge security measures[30],
- Stimulate collaborative research in (all) other areas, in particular in humanities and social sciences.
- Continue collaboration in fundamental research, especially for tackling global challenges.
- Provide clear tools for due diligence in science, while taking a balanced approach; implement China Partnership Navigator (WP5, KQ3).
- Require in all collaboration EU standards for mutual transparency, full compliance with research integrity standards (ALLEA), data security (GDPR), IP, and reciprocity in "openness", data access, and Open Science principles (DORA, COARA), as funding conditions for research contracts (WP5).

[27] The most recent Governmental update on the developments in Dutch-China relations (published after this report was drafted, see also footnote 19) seems to provide a fruitful context for these recommendations. While pointing to the threats and uncertainties surrounding China's role in geopolitics, it acknowledges that as an emerging "knowledge power" China will remain an important partner for the innovation and earning capacity of the Netherlands and for tackling global challenges such as climate change, public health and food security. Hence the government will continue to invest in knowledge exchange, expertise and capacity to shape a well-informed and coordinated China policy. It will actively promote a united EU China policy and urge China together with the EU to bring its rules and policies in line with the agreements of the World Trade Organization (WTO). Kamerbrief ontwikkelingen Chinabeleid | Kamerstuk | Rijksoverheid.nl 13 December 2024.

[28] "Een politiek van verschansing achter 'onze dijken' zal resulteren in verlies aan weerbaarheid, welvaart en waarden" WRR (2024) *Nederland in een fragmenterende wereldorde*. Den Haag: WRR. Pag. 108.

[29] An NWO call for research on Knowledge Security will be launched under the Nationale Wetenschapsagenda in early 2025.

[30] See KQ2 for a positive note on the initiative of the Minister OCW in this respect. Tweede Kamer (2024). *Voortgang aanpak kennisveiligheid in hoger onderwijs en wetenschap*. Brief van de Minister van OCW, 25 oktober 2024.

3. **Invest** in partnerships and **improve** the conditions for Chinese students and researchers to study and work in the Netherlands:

- Create scholarship programs with European conditions (e.g. as in EU programs such as Erasmus & Horizon). Replace CSC contracts, thus attracting Chinese PhDs on proper EU conditions.
- Invest in short-term academic and cultural exchange, such as summer schools. For example: Utrecht Summer School yearly attracts 50+ students from China and SAR HK for courses on EU politics, economy and European culture. But interest for China is waning in NAHSS.
- Re-engage pro-actively and stimulate curiosity for China as a country leading in STI and with a rich cultural history.

4. Work in **EU context** and from **EU** perspective:

- Join European platforms and projects on China expertise, e.g. the European Hub for Contemporary China (EuroHub4Sino) and the China in Europe network (CHERN) (KQ2).
- Connect to platforms such as Safeguarding Science in Europe, a DLR-led initiative providing an overview of guidelines on knowledge security, and manuals for due diligence in science (WP5, KQ3).
- Align closely with relevant EU countries, such as Finland and notably Germany, to monitor synergies between civil and military research (WP5). Defence-related R&D will increase in the current geo-political context, which implies a revised view on openness. (KQ2).

5. Meanwhile, in this context, as universities and other stakeholders: **live up to your values**, home and abroad: be precise, open, and transparent:

- Recognise and address potential conflicts arising from differences in values, particularly around academic freedom and institutional autonomy. Ensure that Dutch values are upheld in all collaborations (WP5, KQ3).
- Explain the Dutch/European concerns better to Chinese counterparts (instead of ending partnerships without clear reason). Realise that while they see the changing attitude in Europe as a challenge (WP4), they do not necessarily understand it since they gain their information mostly through Chinese media (see footnote 16 for more on this information asymmetry).
- Enhance the protection of **academic freedom** in Dutch institutions, against threats both from outside and from within (KQ2).

Appendix A: Perspectives from the Netherlands, Finland and Germany

Perspectives from The Netherlands

In May 2019, The Netherlands issued the paper: Netherlands – China: a new balance (Ministerie van Algemene Zaken, 2023a). Whilst it stated The Netherlands is committed to close education and research collaboration with China, it highlighted risk of unwanted knowledge transfer from the Netherlands to China in areas that are of fundamental importance to the Netherlands, or that have serious consequences for the protection of Dutch and/or universal values, or the economic or national security.

In June 2021, the Minister of Foreign Affairs issued a letter to the parliament titled "***Recent Developments in China and the Situation in Xinjiang*** (Ministerie van Algemene Zaken, 2022)." In the letter, she noted that global relationships have become more complex, particularly between China and the U.S., and that economy, politics, security are becoming increasingly intertwined, and that the government believes that the shifting global power dynamics make a balanced, informed, and nuanced approach towards China even more important.

In April 2022, the ***National knowledge security guidelines*** (Ministerie van Onderwijs, Cultuur en Wetenschap, 2022) were issued, highlighting that knowledge security primarily focuses on:

1. Preventing the transfer of sensitive knowledge and technology that could compromise national security;
2. Guarding against covert foreign influence on education and research, which jeopardizes academic freedom and social safety;
3. Addressing ethical concerns in collaborations with countries that do not respect fundamental rights.

Following USA export control, on September 7th 2024, The Netherlands expanded export control measures for advanced semiconductor manufacturing equipment. This new authorisation requirement builds on the existing national export control rules that have been in force since 1 September 2023. They apply to a very specific technology in the semiconductor manufacturing process: deep ultraviolet lithography equipment (Ministerie van Buitenlandse Zaken, 2024).

Perspectives from Finland

The 2021 ***Finnish Governmental Action Plan on China*** (Ministry of Foreign Affairs, Finland, 2021***)*** referenced the EU's formulation of the China relationship as a combination of "cooperation, competition, and systemic rivalry" as a framework for Finland's bilateral relations with Beijing.

In 2022 the Finnish Ministry of Education and Culture issued ***Recommendations for Academic Cooperation with China*** (Ministry of Education and Culture, Helsinki 2022) outlining strategic

approaches and guidelines for Finnish HEIs and research institutes engaging in academic partnerships with China. Whilst the document highlights the importance of collaborating with China to enhance Finnish research capabilities and contribute to solving global challenges, recommendations are:

Respect for academic freedom and integrity

- **Maintain Academic Integrity:** Ensure that academic freedom and the peer review process in collaborations with China are protected from political influence and other external pressures to safeguard the credibility of research.
- **Uphold Ethical Standards:** Adhere to strict ethical guidelines and scientific practices in cooperation with China. Be aware of risks such as breaches in ethics and the potential misuse of research for purposes that may violate laws or agreements.
- **Insist on Reciprocity:** Emphasise transparency, equality, and mutual respect in academic partnerships with China. Ensure that both parties comply with agreed-upon rules to prevent the misuse of research and maintain a balanced and fair collaboration.

Security and safety considerations

- **Prioritise National Security:** In academic collaborations with China, ensure that national security is not compromised. Evaluate the potential risks that research or technology might pose to national safety.
- **Ensure Personal Safety:** Safeguard the personal safety of all individuals involved in academic cooperation. This includes protecting researchers and students from potential threats linked to the collaboration.
- **Monitor Dual-Use Technology:** Be vigilant about the dual-use nature of certain technologies in collaborations. Implement measures to prevent research intended for civilian use from being repurposed for military or other dangerous applications.

Maintain competitiveness

- **Guard Against Government Influence:** Be aware of the potential impact of Chinese government policies on academic cooperation. Ensure that such influence does not undermine the competitiveness of Dutch research and innovation.
- **Protect Against Data Breaches:** Vigilantly enforce export controls and secure research data. Prevent unauthorized transfers that could lead to the loss of intellectual property and diminish competitive advantages.
- **Enhance Cybersecurity:** Strengthen defenses against cyber-attacks and espionage targeting academic institutions. Protect sensitive research to maintain a competitive edge in global innovation.

Perspectives from Germany

Berlin published its first ***Strategy on China*** paper in July 2023. Chancellor Olaf Scholz spoke of the need to reduce dependency on China, adding on X, that: "The aim is not to disconnect ourselves," while acknowledging that the Asian power was a "systemic rival." (Martin, 2024). Next to risk reduction from economic dependencies, the Strategy on China strives to “Europeanise” its China policy and adopts the EU’s three-sided approach of China as a partner, competitor, and systemic rival (Kuo, 2023).

In January 2024, DAAD published ***Academic cooperation with China: a realistic approach*** (German Academic Exchange Service, 2024) that serves to redefine Germany's position focus on leveraging opportunities from cooperation with Chinese partners while considering the wider political, financial, and strategic environment. According to the document, German higher education institutions should follow three guiding principles when forming partnerships with China:

Institutions should define their own interests and develop symmetrical relationships

- **Set Clear Institutional Objectives:** Encourage academic institutions to define their own goals and interests in collaborations with China. This helps ensure that partnerships are strategic and aligned with institutional priorities.
- **Build Balanced Partnerships**: Promote the development of symmetrical relationships in academic cooperation, ensuring that all participating institutions benefit equally and contribute meaningfully.
- **Enhance Integration and Exchanges:** Support the integration of international students into academic environments and attract early career researchers from abroad. Additionally, encourage local students and academics to participate in exchange programs to foster deeper mutual understanding.
- **Ensure Reciprocity in Research:** Design research collaborations to prioritise reciprocity, balancing the interests of all partners to ensure that the cooperation is mutually beneficial.

Develop expertise on China

- **Strengthen China Expertise**: Promote the development of specialised expertise on China within higher education institutions by supporting programs and research focused on Chinese studies.
- **Support Individual Learning**: Facilitate opportunities for researchers and students to build deeper knowledge about China through dedicated resources and support.
- **Foster Active Collaboration**: Encourage institutions to engage proactively with China to build strong academic and research connections.
- **Ensure Institutional Independence**: Maintain the independence of institutions while collaborating with Chinese partners to protect academic freedom and research integrity.
- **Encourage Open Dialogue**: Create an environment that supports critical dialogue with Chinese partners, ensuring that discussions are open, balanced, and constructive.

Minimise risks and create transparency

- **Keep Track of Partnerships**: Maintain a comprehensive overview of all partnerships and participants involved in collaborations with China to effectively manage and monitor international engagements.
- **Establish Clear Processes**: Raise awareness and create structured decision-making processes to manage partnerships and mitigate risks.
- **Ensure Transparency**: Publish detailed information about review procedures related to foreign trade law to promote transparency and accountability.
- **Implement Due Diligence**: Facilitate thorough due diligence reviews for all foreign collaborations to ensure that partnerships are credible and risks are minimised.
- **Follow a Rules-Based Approach**: Design cooperation frameworks based on clear rules and guidelines, identifying common ground to ensure transparency and effective collaboration.

In March 2024, the German Federal Ministry of Education and Research issued a "German Federal Position paper on research security in light of the Zeitenwende (turning point in history)". The paper highlights seven guiding principles and three key dimensions as described below:

Seven guiding principles:

- **Importance of International Collaboration:** While difficult partnerships may arise, international collaboration remains critical to solving global challenges and advancing competitiveness in research.
- **Protection of Scientific Freedom:** Ensuring academic freedom is a key pillar of democracy and a perquisite for genuine scientific progress.
- **Self-regulation:** The scientific community will retain responsibility for decision-making, supported by relevant information and structures.
- **Proportionality:** Measures taken should balance openness in research with necessary security, based on a risk-oriented approach.
- **Whole-of-Government Approach:** Addressing these challenges requires cooperation between various ministries, agencies, and an integration of European and multilateral dimensions.
- **Country-Independent Approach:** Promotes a country-agnostic agenda with an emphasis on reciprocity in international cooperation.
- **Learning Approach:** Continuous evaluation and enhancement of measures through experience sharing among actors, grounded in an evidence-based, learning-oriented approach.

Three key dimensions:

1. Increasing the efficiency and effectiveness of instruments, structures, and procedures
2. Strengthening knowledge and awareness
3. Leveraging synergies

Appendix B: Full text of the expert survey

Welcome! This survey is part of the research project Changing Perspectives: Towards Conditions for Sustainable EU-China Collaboration, coordinated by Prof. Marijk van der Wende at Utrecht University in the Netherlands.

The study seeks to gain insights into how Chinese universities perceive and analyse the changing internal conditions and external global dynamics, affecting academic collaboration with Europe. We are particularly interested in global changes in the last decade and how Chinese universities have responded to these changes over the last five years (since 2019). What are their motives and their perceptions, perspectives and understandings?

In particular, what is seen by Chinese institutions as obstacles, challenges, risks, and opportunities for collaboration with the EU? For which type of collaboration (e.g. research, education, multi or bilateral) in the short-mid-or long term?

We encourage you to respond based on your knowledge of the Chinese university sector more generally, i.e. your answers are not bound to the policies or views of your own institution.

Your insights will contribute significantly to our research and inform future collaboration policies. The study is carried out under the conditions of the European Code of Research Integrity. Your responses will be treated anonymously, kept confidential, and used solely for our research.

The survey will take you 20-30 minutes to complete. We thank you for your participation!

If you wish to receive the report of this study by the end of 2024, please leave your email at the end of this survey.

1. What is your academic field/ discipline?

- [ ] Education
- [ ] Arts and Humanities
- [ ] Social Sciences, Journalism and Information
- [ ] Business, Administration and Law
- [ ] Natural Sciences, Mathematics and Statistics
- [ ] Information and Communication Technologies
- [ ] Engineering, Manufacturing and Construction
- [ ] Agriculture, Forestry, Fisheries and Veterinary
- [ ] Health and Welfare
- [ ] Services

2. What's your current position?

- ◯ PhD or PhD candidate
- ◯ Post-doc or Assistant Professor/Lecturer
- ◯ Associate Professor
- ◯ Professor
- ◯ Administrator (e.g. President, Dean, Department Head)
- ◯ Other, please specify

3. For how many years have you worked in academia?

4. For how many years have you been involved in collaboration with partners in the EU?

5. In which EU countries did/does your collaboration take place?

Country 1

Country 2

Country 3

More, please list them:

6. (How) has the importance for Chinese universities to collaborate with European partners changed since 2019?

- ◯ It has become more important
- ◯ No change
- ◯ It has become less important
- ◯ Depends on the field (please specify): [ ]

7. Have changing perspectives between the EU and China affected academic collaboration?

- ◯ Yes, mostly EU has changed its attitude towards China
- ◯ Yes, mostly China has changed its attitude towards the EU
- ◯ Both
- ◯ None

Explain your answer if you like

[ ]

8. How important is it for Chinese universities to collaborate with European partners, in comparison to other regions? From the most to the least important, you can click or press the answer, then drag it (请点击或轻按答案，进行排序):

- Cooperation with Europe
- Cooperation with USA
- Cooperation with Belt & Road countries
- Cooperation with South-East Asia
- Cooperation with the Global South

9. How important are the following countries for Chinese universities to sustain collaboration in the EU? You can click or press the answer, then drag it (请点击或轻按答案，进行排序):

- Austria
- Finland
- France
- Germany
- Hungary
- Italy
- Netherlands
- Other

Could you briefly explain your ranking?

10. Recent data indicate a substantial shift in international student flows to China, with a decline in students from the West and an increase in students from Belt & Road countries and the Global South. How do Chinese universities view this change?

- ◯ Very positive
- ◯ Slightly positive
- ◯ Neutral
- ◯ Slightly negative
- ◯ Very negative

11. Recent data indicate a decline in international co-publications involving Chinese and American researchers, while collaboration between Chinese and European partners is on the rise. How do Chinese universities view this change?

- ◯ Very positive
- ◯ Slightly positive
- ◯ Neutral
- ◯ Slightly negative
- ◯ Very negative

Could you briefly explain your choice?

12. Recent data show a substantial decline in the number of researchers from the West who work in China. How do Chinese universities view this change?

- ◯ Very concerning
- ◯ Slightly concerning
- ◯ Neutral
- ◯ Not a serious problem
- ◯ Not a problem at all

Could you briefly explain your choice?

13. In recent years, China has invested heavily in research excellence and doctoral education. How successful are Chinese universities now in retaining Chinese PhDs inside China and in attracting international top talent?

- ◯ Very successful
- ◯ Slightly successful
- ◯ Neutral
- ◯ Not so successful
- ◯ Not successful at all
- ◯ Depends on the field (please explain your choice)

14. Recent policies suggest that China places a strong emphasis on the humanities and social sciences, seeking to achieve its cultural leadership and enhance its international influence. How relevant is this for Chinese universities in their European partnerships?

- ◯ Very relevant
- ◯ Slightly relevant
- ◯ Neutral
- ◯ Slightly irrelevant
- ◯ Very irrelevant

Could you briefly explain your choice?

15. Policy analysis reveals a range of strategic challenges and opportunities for Chinese universities in collaboration with Europe. Please categorise the following external factors as challenges or opportunities.

	External	
	Challenge	Opportunity
Artificial intelligence	☐	☐
Technological innovation	☐	☐
Informatisation reshaping higher education	☐	☐
New platforms for international cooperation	☐	☐
Strategic layout for the rejuvenation of the Chinese nation	☐	☐
Global uncertainty and instability factors	☐	☐
Intensified global competition	☐	☐
Changing perspective of the EU on China	☐	☐
Fierce competition in the field of technological innovation	☐	☐

Could you name the most important challenges and opportunities from above (max 3)?

Challenge top 1

Challenge top 2

Challenge top 3

Opportunity top 1

Opportunity top 2

Opportunity top 3

16. Policy analysis reveals a range of internal factors affecting Chinese universities' collaboration with European partners. Please categorise the following factors as either a strength or a weakness.

	Internal	
	Strength	Weakness
Fundamental research	☐	☐
Performance in STEM (science, technology, engineering, mathematics)	☐	☐
Insufficient original innovation capability	☐	☐
Contradiction between existing resources and development needs	☐	☐
Inadequate capacity for cultivating high-level innovative talent	☐	☐
The balance between leading academic frontiers and serving national strategies	☐	☐
Smart campus construction	☐	☐
Large pool of STEM talents	☐	☐
Building an innovation-leading academic evaluation system	☐	☐
Lack of top academics	☐	☐

Could you name the most important strengths and weaknesses from above (max 3):

Strength top 1

Strength top 2

Strength top 3

Weakness top 1

Weakness top 2

Weakness top 3

17. Which key areas should Chinese universities prioritise in collaborating with the EU? Please rank your choice.

- Energy transition
- Water and natural resources management
- Climate change and environmental management
- Artificial Intelligence
- Information and Communication Technology/Computer Science
- Medicine and Health
- Public Safety and National Security
- Urban design, architecture, smart city design
- Humanities, language studies
- Social Sciences

Other, please specify:

18 Which of these key areas from above would be most important for China's Geo-strategic autonomy and technological self-reliance? Please list the top 3:

Top 1

Top 2

Top 3

19. Which of these key technologies from above would be the most important for China to collaborate with partners in the EU? Please list the top 3:

Top 1

Top 2

Top 3

20. Do current Chinese governmental policies effectively incentivise academic collaboration with partners in the EU?

- ◯ Yes, all fields are effectively incentivised
- ◯ Yes, many fields
- ◯ To a certain degree, only a few fields (please specify) _____
- ◯ Not really

Could you briefly explain your answer?

_____

21. Do current Chinese university policies effectively incentivise collaboration with partners in the EU?

- ◯ Yes, all fields are effectively incentivised
- ◯ Yes, many fields
- ◯ To a certain degree, only a few fields (please specify) _____
- ◯ Not really

Could you briefly explain your answer?

_____

22. What are the main concerns for Chinese universities to sustain their academic collaboration in the EU?

- ☐ Knowledge security
- ☐ Scientific nationalism
- ☐ Academic freedom
- ☐ CSC grant conditions for PhDs
- ☐ Other, please specify _____

23. Do current Chinese governmental policies effectively address these concerns?

- ◯ Yes
- ◯ To some extent
- ◯ Not sure
- ◯ Not really

Could you briefly explain your choice?

24. Do current Chinese university policies effectively address these concerns?

- ◯ Yes
- ◯ to some extent
- ◯ not sure
- ◯ not really

Could you briefly explain your choice?

25. Which adjustments would help to sustain and better balance China's academic collaboration with the EU? Please rank your choice.

- Raising awareness among Chinese policymakers of European concerns
- Raising awareness among Chinese academics of European concerns
- Rebuild trust of European policy makers in collaboration with China
- Rebuild trust of European academics in collaboration with Chinese counterparts
- Focus more on mutual benefits and joint long-term interests such as global challenges and sustainable development goals
- Jointly address the risks of "scientific nationalism"
- Revise EU knowledge security screening regulations
- Better regulate data security and IP disputes on the Chinese side
- Other, please specify:

Could you briefly explain your top-ranked choice?

Would you like to receive the results of our research? If so, please provide your email below:

- ◯ Yes, I'd like to. Here is my email: [ ]
- ◯ No, I don't wish to receive your report.

We thank you for your time spent taking this survey.
Your response has been recorded.