

RECONNECT CHINA

POLICY BRIEF 12

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Knowledge and Perception of Research Security – the Case of Research Cooperation between Austria and China

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Executive summary

Research security was high on the agenda of the outgoing European Commission as evidenced by a series of policy documents, most notably in the Economic Security Strategy package put forward in May 2024. Research security can only be effective if policy is translated into practical solutions through easy-to-use tools, balancing openness and safety.

This policy brief aims to draw practical conclusions and provide recommendations on how to support researchers aiming to collaborate with China in light of the ongoing policy debate on research security. The recommendations are based on the main findings of an online survey conducted with 24 Austrian scientists on the topic of research security in the context of cooperation with China.

The results of the survey show a fundamental lack of knowledge about research security related terms, as well as on the current policy strategies and recommendations shaping the research collaboration between the EU and China. There is an urgent need for support measures in assessing the security risks associated with potential Chinese partners, including dual-use aspects.

Even though responses were gathered from very diverse scientific fields, there seems to be a consensus among scientists who have already

worked with Chinese partners that cooperation should continue but in a recalibrated way that ensures mutual benefits and transparent knowledge transfer and data use.

To facilitate such a recalibration, the main **policy recommendations** are as follows:

- (1) A more systematic, European-level data collection and analysis should be conducted on research security aspects in the context of cooperation with China;
- (2) An in-depth discussion, facilitated and/or supervised by policy makers in charge of the topic on knowledge security, should be held at European, national, and university levels to recognise the risks associated to research cooperation with China and to inform the design of related policies for the three respective levels;
- (3) Developing guidelines on how to effectively collaborate with China without worrying about ideas or technologies being ‘misused’ should be given to interested researchers and institutions;
- (4) A European university tracker for China should be developed with the aim of assessing the research security risks associated with Chinese institutions;
- (5) Decision-makers in each relevant scientific field should come to an agreement on how to

subsequently cooperate with Chinese partners. Such future directions might also cover restrictive measures ideally applicable at the national or European level.

Whereas the latest EU Recommendation on research security in international cooperation from May 2024 includes proposals for similar initiatives, our recommendations are “China-specific”. We consider China a unique case for international research cooperation, requiring case-based information gathering and policy development to serve the needs of European researchers in tackling the complexities that arise when engaging in cooperation activities with their Chinese counterparts.

2.56% of GDP in 2022, up from 1.06% twenty years ago.¹ In comparison, the Austrian GERD in 2022 was about 3.2%, while the EU-27 GERD was 2.11%.

The growth in significance and funding of national R&I programmes went hand-in-hand with a stronger aspect of internationalisation in R&I. This entails public activities such as the “1000 talents programme”, by which leading science and technology experts from abroad should be recruited to continue their work in China, or the “Little giants programme”, aimed at raising promising small and medium-sized enterprises into world-leaders in specific technology fields in view of the country’s ambition to become more technological self-reliant.

FOREIGN INTERFERENCE IN R&I

In the context of the growing international presence of Chinese public and private R&I actors partly fuelled by the above-mentioned large-scale programmes, a policy debate on foreign interference in R&I started across the world, including in the European Union (EU) and its member states (MS).

Foreign interference in R&I and research security are closely intertwined. The EU understands foreign interference in R&I as an activity carried out by, or on behalf of, a foreign state-level actor, which is coercive, covert, deceptive, or corrupting and contrary to the sovereignty, values, and interests of the EU (Schuch, Puukka, Shih, Pamment, Weresa, 2024, p.11).

Foreign interference, in general, is carried out with specific tactics, with imminence to the R&I sector as well. Most often observed cases involve political pressure on strategic decision makers by influential representatives, financial support to institutions or individuals in the form of investments, donations, funding or loans, the exploitation of people in strategic positions through coercion, digital intrusions, or the spread of disinformation against the interests of the stakeholders concerned².

Acknowledging the rising importance of the issue at hand, the European Commission (EC) published the document “Tackling R&I foreign interference” in 2022, calling on Higher Education Institutions (HEIs) and Research Performing Organisations

INTRODUCTION

CHINA’S R&I GROWTH AND AMBITIONS

China has become a leading nation in research and innovation (R&I), measured by the growing number of publications and citations in high-impact journals, as well as the raised output of registered international patents (Brugner, Szüdi, 2023). R&I is increasingly seen as a key ingredient to achieve China’s ambitious objectives to spur the share of Chinese companies in domestic high-tech production capacity to 70% of total market share by 2025, to become the world leader in AI technology by 2030 and in global science output and impact by 2050.

A new technocratic approach to science policy benefitting key economic goals has occupied a central place in the national development agenda at least since 1986 when the “863 programme” for the development of high technology was launched under the Seventh Five-Year Plan amidst the reform and opening policy of Deng Xiaoping.

Ever since, China’s policy leaders did not hold off from launching subsequent large-scale, well-founded R&I programmes that are strategically aligned with the country’s economic priorities. This is highlighted by the fact that China’s estimated gross domestic expenditure on R&D (GERD) was

¹<https://www.oecd.org/en/data/datasets/main-science-and-technology-indicators.html>

²<https://data.consilium.europa.eu/doc/document/ST-5396-2022-INIT/en/pdf>

(RPOs) to act through a toolkit of measures (practical approaches).

It is interesting to note though, that the term “research security” does not once appear in this toolkit. This changed by the adoption of the EU economic security strategy³ in June 2023. This joint communication mentions “research security” three times in total and establishes links to the EU’s economic security. Among the measures proposed to protect Europe’s economy from hostile actions, the new risk mitigation measures for dual-use technologies have significant repercussions for the R&I sector.

In a follow-up recommendation on critical technology areas for the EU’s economic security of October 2023,⁴ the EC further defined those technologies that should become subject to future risk assessment to avoid their potential dual-use for military purposes. From the 10 areas proposed for collective risk assessment together with EU MSs, 4 were labelled as “priority areas”, given their potentially high exposure to activities of foreign interference and the related risks of technology security infringement and technology leakage. These are advanced semiconductors technologies, artificial intelligence technologies, quantum technologies and biotechnologies.

Research security came even more into the forefront when the Council Recommendation on enhancing research security was adopted on May 23 2024.⁵ The difference between the target groups of the foreign interference toolkit and the Council Recommendation is worth to note. While the toolkit targeted HEIs and RPOs and left many issues open, e.g. the financing of risk assessments, the Council Recommendation emphasises the agency of the MSs by acknowledging the fact that “*the management of risk in international research can no longer be regarded as merely the concern of HEIs and individual researchers*” (Welin, 2024).

Against the backdrop of this ongoing European policy development, an online survey was conducted from May to June 2024 with key researchers from Austrian HEIs and RPOs who are

potentially involved in research cooperation projects with Chinese partners.

With the help of the survey, the authors’ aim was to draw practical conclusions on how to support researchers planning to collaborate with China, one of the key countries in the focus of the ongoing policy debate on foreign interference in R&I and research security. We derived our recommendations from the responses of 24 Austrian scientists who answered closed and open-ended questions about their research topics, with a particular focus on critical technology areas, and their ongoing or planned research efforts with Chinese partners, detailing the challenges encountered and the potential support measures needed. We also enquired about their personal views on the future of research cooperation with China in light of the ongoing concerns around research security.

The main findings of this online survey are presented in the following chapter, accompanied with the relevant policy recommendations. A more detailed overview of all its results is included as an Annex at the end of this policy brief.

MAIN FINDINGS & POLICY RECOMMENDATIONS

Finding 1: The survey results show that cooperation between Austrian and Chinese researchers happens in highly-specialised fields. Some of these were deemed “critical technology areas” by the EC in 2023, such as advanced semiconductors technologies, automated driving and autonomous vehicles, biotechnology or material sciences, while others happen in areas less likely to be used for military purposes (dual-use), such as energy-efficient construction or social sciences and education.

Our non-representative survey indicates individual researchers and research teams engaging in joint research with Chinese partners on individual initiative, without significant institutional or federal support or guidance. This prevents us from painting a full picture on the research cooperation patterns between China and Austria, and calls for a more systematic data collection.

³<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023JC0020>

⁴https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4735

⁵<https://www.consilium.europa.eu/en/press/press-releases/2024/05/23/council-adopts-a-recommendation-to-enhance-research-security/>

Recommendation 1: To increase the knowledge on relevant stakeholders engaged in research cooperation with Chinese counterparts, in particular within critical technology areas or with risky Chinese partners, a more systematic data collection and analysis should be conducted at European level. We consider the current survey a good practice which shall be repeated in other countries participating in the ReConnect China project (Horizon Europe) and call on relevant European policy actors to organise a similar endeavour (online, hybrid or offline survey) at a broader, preferably European level.

Finding 2: Irrespective of their scientific background or engagement level with Chinese partners, only a minority of the researchers had any ideas about the terms specifically related to research security aspects with China, e.g. 'the seven sons of national defence'. In addition, based on their own admission, most researchers would welcome more information about the ongoing R&I policy developments in both Europe and China, including the presumably relevant joint policy documents, as well as European or Chinese strategies influencing common research trends.

Recommendation 2: As a first step, an in-depth discussion on research security, facilitated and/or supervised by policy makers dealing with the topic, should be held at European, national, and university levels to recognise the risks associated to research cooperation with China. It should focus on identifying and discussing security-related challenges at specific Chinese HEIs and RPOs, institutional departments or research topics. The discussion could take place in various formats, but it is of utmost importance that it should be open to all interested parties and its results should be disseminated as widely as possible. Discussion results should further inform the design of related policies for the three respective levels.

Finding 3: Austrian researchers already engaged in a formalised research collaboration with Chinese partners were predominantly satisfied with the contracting procedure, such as institutional due diligence, and the contractual terms and

conditions. They indicated more problems with practical aspects of the ensuing joint research efforts, e.g., data transparency or mutual benefits. They also strongly signaled that they felt insufficiently informed about R&I developments in China before engaging in collaborative research.

Recommendation 3: More guidance on how to effectively collaborate with China without worrying about ideas or technologies being 'misused' should be given to interested researchers and institutions. Such guidance could take the form of guidelines in various crucial issues, such as risk assessment or IP, and templates e.g. for research cooperation contracts at a national or European level. Ideally such written guidelines should be complemented with a European network of scientific, legal or administrative advisors who could support researchers with practical issues before, during and beyond the research cooperation.

Finding 4: The biggest obstacle to engage in a joint research effort with Chinese partners perceived by Austrian researchers is the lack of support in assessing the credibility and security risks associated with potential Chinese institutions, which might include the conceivable dual-use of common research results.

This challenge is exacerbated by a general feeling – shared by both researchers who are only planning and those already having research collaboration with China – that there is not enough knowledge available on the current policy strategies and recommendations between the EU, its MS and China, particularly at the present rapidly evolving policy landscape.

Recommendation 4: Until now, there is no specific university tracker for Chinese HEIs developed in Europe, but the Council Recommendation on enhancing research security **proposes to establish a "European Centre of Expertise on Research Security"**, which could be tasked with developing a European university tracker for China (and other countries) based on European expertise in the future. With the support of such a Centre, the scientific credibility of Chinese partners could be

validated prior to entering into joint research efforts.

Finding 5: The Austrian researchers are divided over whether the intensity of research cooperation between Austrian/European and Chinese HEIs or RPOs should be enhanced or decreased in the near future, and whether there are any strategic areas where Austria/EU and China should definitely carry out joint research activities. Almost as many researchers suggested less cooperation as more, without any significant differences by seniority or discipline (critical versus non-critical technology areas).

Nevertheless, researchers who have already collaborated with Chinese counterparts expressed a more positive opinion on future collaboration, but with an important caveat: mutual exchange of information, transparent data use and generation, as well as the proportionate distribution of benefits stemming from joint research were deemed crucial.

Recommendation 5: Following the development of better databases, guidance documents and other support measures (see previous recommendations), the scientific and policy decision-makers of each relevant scientific discipline, in particular those of critical technology areas, should come to an agreement on how to subsequently cooperate with Chinese partners. Such future directions might also cover restrictive measures that ideally should be the result of an open process involving a broad variety of stakeholders and therefore are valid not only for certain universities but become applicable at a higher (national or European) level.

THE RESEARCH BEHIND: RESULTS OF THE SURVEY WITH AUSTRIAN HEIs ON RESEARCH SECURITY IN COOPERATION WITH CHINA

OVERALL PARTICIPATION: INSTITUTIONS & RESEARCH BACKGROUNDS

The German-language survey – titled “Research security with China” – ran from May 23 until June 24, 2024 on LimeSurvey⁶. It targeted researchers from both public and private Austrian universities

⁶<https://www.limesurvey.org/de>

without disciplinary restrictions, as well as from the Austrian Academy of Sciences. In total, 36 institutions were contacted⁷, resulting in 55 individual responses, out of which 24 responses were fully filled-out and used for analytical purposes. The majority of the 24 respondents was from a senior-level position, with 10 people identifying their position as “university professor”, and another 7 indicating some other leading academic role, such as director of an institute or department. Among juniors, 5 respondents identified their position as “associate professor”, and 2 named a more junior academic position.

From the 24 responses 13 came from technical Universities (TU Vienna (8), TU Graz (3), Montan University Leoben (2)); 4 from comprehensive universities (University of Innsbruck (2), University of Klagenfurt, University of Linz); 3-3 from the Austrian Academy of Sciences and Universities of Applied Sciences (FH St. Pölten, Management Centre Innsbruck, Ferdinand Porsche Fern FH); and 1 from the Federal Ministry of Defence (Fig. 1).

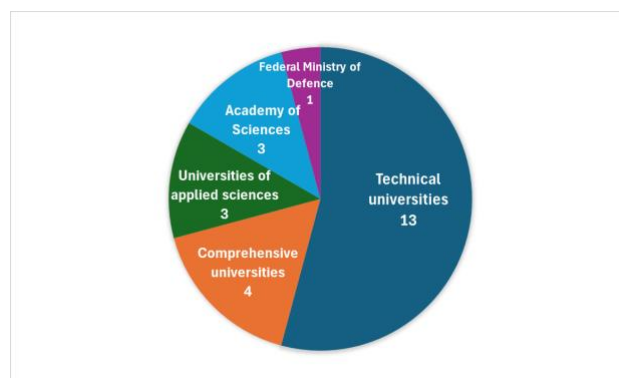


Figure 1 Share of institutions (types) answering the survey

In line with the higher share of responses from technical universities, the individual research background of respondents also tends to lean towards technical sciences, with biotechnology (4), automotive engineering and material sciences (3-3) being most frequently mentioned (Fig. 2).

⁷In principle, the survey was publicly accessible, while its dissemination by ZSI was institution-specific only.

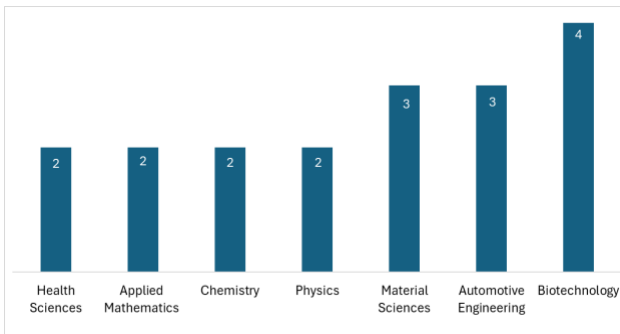


Figure 2 The most frequently mentioned research backgrounds

WORK IN CRITICAL TECHNOLOGY AREAS & WITH CHINESE INSTITUTIONS

Although open to researchers from any discipline, the survey specifically enquired whether a respondent is active in one of the following critical technology areas: **1. Advanced Semiconductors technologies** (microelectronics, photonics, high frequency chips, semiconductor manufacturing equipment), **2. Artificial Intelligence technologies** (high performance computing, cloud and edge computing, data analytics, computer vision, language processing, object recognition), **3. Quantum technologies** (quantum computing, quantum cryptography, quantum communications, quantum sensing and radar), **4. Biotechnologies** (techniques of genetic modification, new genomic techniques, gene-drive, synthetic biology).

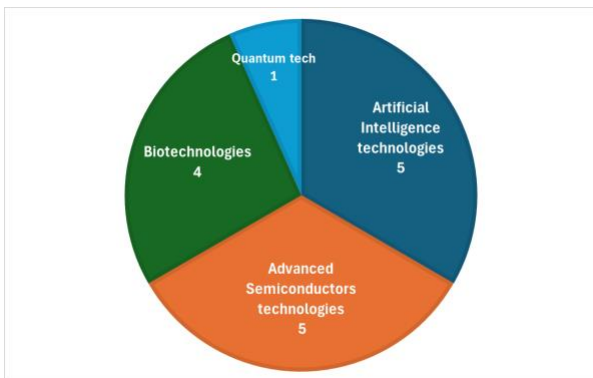


Figure 3 Critical technology areas mentioned per researcher

Out of 24 respondents, 14 answered with “yes”, indicating own research in one or more critical technology areas. Almost all researchers working in such an area were in a senior position (11). As regards the specific area, advanced semiconductor and AI technologies (5-5 answers), as well as biotechnologies (4) were the most relevant (Fig. 3).

10 respondents (4 junior and 6 senior researchers) indicated a previous working relationship with China (i.e. a jointly signed research contract), out of whom 4 researchers (2 senior and 2 junior) wrote that they conduct joint research within one of the critical technology areas: 2 dealing with automated driving and autonomous vehicles, 1 with biotechnology, and 1 with semiconductor manufacturing. It should be noted that 3 more respondents indicated research fields that might be potentially within critical areas, such as autonomous driving and material sciences but the respondents themselves did not consider these critical.

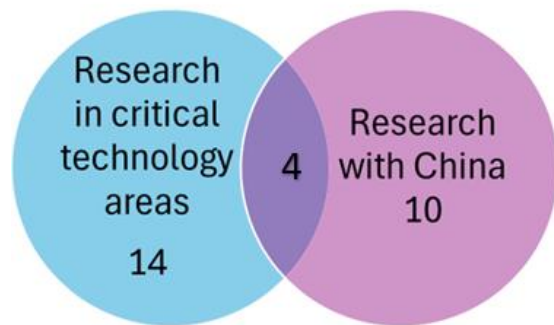


Figure 4 Researchers dealing with critical topics and China

As regards future research, 10 respondents answered that they have a current cooperation request from China (with 5 of them having never cooperated with China before). The topics (highly-automated driving, biotechnology, low-emission buildings, student exchange and supervision) and potential partners (Shandong University, Beijing Jiaotong University, Tongji University, Sun Yat-Sen University, Chinese Academy of Sciences) vary from a critical technology perspective. An interesting finding is that the **Chinese military had approached the Austrian Federal Ministry of Defence with cooperation requests in AI and quantum technologies**. There has been no intention for cooperation on the Austrian side.

In addition, we assessed the research cooperation risks from an institutional perspective by using the China Defence Universities Tracker from ASPI

(Australian Strategic Policy Institute).⁸ This tracker ranks Chinese universities and research institutions to risk levels based on their involvement in military or security-related science and technology research.

Table 1 presents the risk levels of the Chinese institutions mentioned by Austrian respondents as former or potential future partners. One cooperation took place with a university considered very-high risk (Hunan University) in a non-critical area, and one research project was finalised in a critical area (autonomous driving) with a medium-risk university (Tongji University). As regards future cooperation, there was a Chinese offer from a very-high risk university (Shandong University) in one of the critical areas (biotechnology). It should be noted that the risk level of some finalised projects could not be assessed due to lack of data (e.g. Chinese academies not present in the tracker database).

<i>Institution</i>	<i>Risk level</i>	<i>Cooperation area</i>	<i>Finished partnership</i>
<i>Hunan University</i>	<i>very high</i>	<i>Material science (Low-emission buildings)</i>	<i>Yes</i>
<i>Tongji University</i>	<i>medium</i>	<i>Autonomous driving</i>	<i>Yes</i>
<i>Shanghai University</i>	<i>medium</i>	<i>Material science (Additive manufacturing of metals)</i>	<i>Yes</i>
<i>CN Academy of Sciences</i>	<i>N/A</i>	<i>Material science</i>	<i>Yes</i>
<i>China Academy of CN Medical Sciences</i>	<i>N/A</i>	<i>Biotechnology</i>	<i>Yes</i>
<i>Shandong University</i>	<i>very high</i>	<i>Biotechnology</i>	<i>No</i>
<i>Sun Yat-Sen University</i>	<i>high</i>	<i>Applied mathematics</i>	<i>No</i>

Table 1 Research cooperation risks with Chinese universities

⁸<https://unitracker.aspi.org.au/> – to the authors’ knowledge, the only publicly available tracker screening

FUNDAMENTAL KNOWLEDGE ON RESEARCH & KNOWLEDGE SECURITY

The survey also included two simple questions on the fundamental knowledge of respondents concerning research security with China. The first question asked whether the respondent is familiar with the term ‘seven sons of national defence’, while the second question enquired whether the respondent is familiar with the term ‘knowledge security’ in the context of international research cooperation with non-EU countries.

Out of the 24 respondents, 6 researchers (among whom 5 were in a senior position and only 1 had an established research cooperation with China) answered with “yes” to the first, and 9 researchers (among whom 6 were in a senior position and 6 had an established research cooperation with China, out of which 2 was in critical technology areas) answered with “yes” to the second question. We can conclude that few researchers know basic terms of research security, in particular when they are connected to Chinese institutions (as in the case of the first term), even if they plan to establish or have already been engaged in a research cooperation with Chinese partners.

PERCEPTION OF WORK WITH CHINA & POTENTIAL SUPPORT IN TERMS OF RESEARCH SECURITY

To better understand individual perceptions on different security-related aspects of the research cooperations with Chinese partners, respondents were asked to give rankings from 1 to 5 (1: not at all, I disagree; 5: completely true, I agree) to the following points:

- 1. I was always aware about how my partner made use of the data and results generated in my cooperation(s),*
- 2. My research contracts were always checked and permitted (due diligence) from my own institution,*
- 3. For my cooperation projects, both sides could always agree on a contract written in English language and with legal effect in both countries,*

the links of CN universities to the military and defence sector

4. In my research cooperation(s) I always had the feeling that both sides benefit to the same degree from visibility, networks, access to data etc.,

5. I think I'm sufficiently informed about the developments in science and technology in China.

The results suggest that researchers in Austria were the most satisfied with the institutional due diligence, and the common (English) language and legal effects of their research contracts. Beyond the contractual obligations, they reported issues with some practical aspects of the research cooperation: some perceived the transparency of data generation and use problematic, and voiced a disbelief in the mutually beneficial nature of the partnership. Nevertheless, the outstandingly biggest issue was the fact that many researchers felt insufficiently informed of STI developments in China (see Fig. 5).

We observe that the 4 respondents conducting research in critical technology areas gave even less favourable scores (with an average -0.72 points), particularly having a more negative view on the mutual benefits arising from the cooperation with Chinese partners. In comparison, the 6 senior respondents were a bit more positive in general (with an average +0.22 points), but had a slightly more negative opinion on the (sufficient) information flow on STI in China.

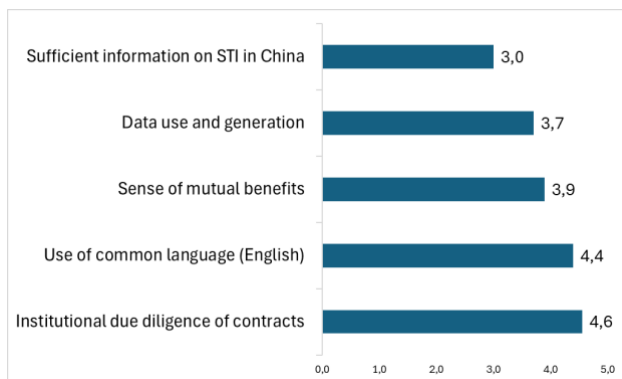


Figure 5 Individual perceptions on aspects of research cooperation with China

A related question was asked about the relevance of potential support measures provided to researchers when cooperating with China. Respondents were asked to rank the following 5 actions from the most (5) to the least important (1):

1. Support with a research stay in China,
2. Assistance for a better networking with colleagues from Austria and abroad, incl. China,
3. Help with existing strategies and recommendations between the European Union or Austria and China,
4. Support in assessing the credibility and the potential security risks of Chinese partners,
5. Help to understand potential dual-use aspects of the own research topic.

The results clearly show that respondents overall would consider the support to better understanding the strategies and recommendations existing between Austria (EU) and China the most beneficial. The respondents indicated the support in assessing the credibility and security risks associated with relevant Chinese partners as the second most helpful measure. This suggests that respondents would like to know more about the general research policy situation between Austria and China and the potential concrete security risks of their Chinese partners before engaging in a research cooperation. A significant number of respondents also highlighted the need for a better understanding of the dual-use aspects of their own research topics (the relevant scores potentially lowered by the non-familiarity with research security related terms such as 'dual use') and for support actions to research stays in China (the most divisive scores were given to this measure, implying that not all Austrian researchers working with Chinese partners aim to travel to China). Austrian researchers need the least support with building up and maintaining a better network with domestic and Chinese colleagues (see Fig. 6). There are no significant differences between junior and senior researchers.

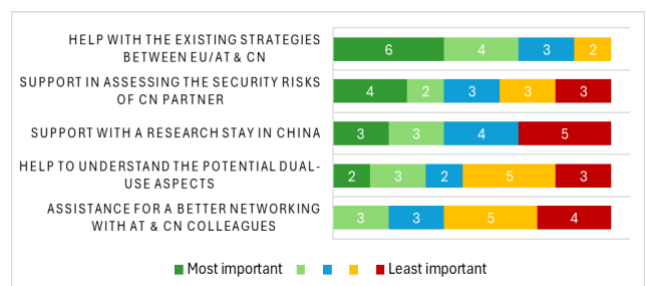


Figure 6 Individual perceptions on the most needed support measures

If we only consider the views of the 4 respondents conducting research in critical technology areas then the order has one particular deviation by valuing support provided to better networking much higher (as the second most important measure). A reliable networking in critical technology areas seems to be more valued than in general.

For the 5 respondents who have not concluded a research contract with Chinese partners yet, the most important support measure is the help in assessing the security risks with potential Chinese partners, which could be considered as the biggest obstacle in developing new research relationships.

4 respondents working with Chinese partners (out of whom 3 are engaged in research in critical technology areas) mentioned additional required support measures. Two suggestions concerned more information on funding opportunities and networking with interested partners, while two remarks concerned research security issues, highlighting the need for more information on Chinese topics and partners where they have already been IP-related, and other legal issues.

PERCEPTION ON THE FUTURE RESEARCH COOPERATION WITH CHINA

Finally, we asked the respondents about their opinion on the future of research cooperation with China in Austria and the EU. More than three-fourth of the respondents (19) provided an answer to two questions: (1) whether the future intensity of the cooperation between Austrian/European and Chinese researchers should be enhanced or decreased, and (2) whether there are such strategic areas where Austria/EU and China definitely should conduct joint research activities in the future.

As results in Fig. 7 show, 10 respondents did not (definitely) answer the first question, while **about the same number of people think cooperation should be less (5) and more (6) in the future**. An interesting finding is that researchers in junior positions have a more positive view: 4 out of 7 respondents wants to intensify future research cooperation with China.



Figure 7 Individual assessment on future cooperation intensity with China

Not surprisingly, the 10 researchers with an already established cooperation with China had more definitive views on the supposed future research intensity. Their opinion is also more positive than the average: 4 respondents envisage more cooperation and 3 respondents are cautiously optimistic by underlining the perceived importance of cooperation but also drawing attention to the inherent risks and dangers.

This perspective is summed up by a senior researcher from a technical university in metallurgy who says *“that cooperation must include a sense of proportion. Cooperation on critical technologies should only be done with reliable partners where a mutual exchange of information is possible”*.

Overall, researchers with a previous cooperation were rather stressing the positive aspects of and the need for an increased collaboration with Chinese partners. These positive aspects included the benefits gained from international networking with world-class researchers or from student exchange with well-educated, ambitious and hard-working Chinese students.

In contrast, the negative views on future cooperation are summarized by a senior researcher in the field of materials science and engineering from the Austrian Academy of Sciences who never had a research cooperation with Chinese partners: *“the new politics that all Chinese citizens could potentially be spies does not induce confidence. My research is already heavily copied and not well, but the Chinese colleagues can nevertheless get into higher impact factor journals and faster than I so my impact is reduced”*. The respondent still

concludes that despite all this “*cooperation is needed on some level to have innovative solutions*”.

The listed negative aspects of joint research with China included the threat to competitiveness of Austria’s and Europe’s economy, the use of research results for military purposes, (industrial) espionage, or the disproportionate distribution of benefits stemming from joint research.

Concerning the second question on strategic areas where joint research is deemed crucial, no significant difference was noted between respondents engaged in critical and non-critical technology areas. For instance, researchers in the automotive industry favoured more collaboration, while a researcher in semi-conductors was less enthusiastic and warned of potential dangers. More respondents agreed that collaboration with China in strategic fields is indispensable, but the opportunities and risks should be weighed more systematically in the future, without jeopardising collaboration by unfounded prejudices.

Areas where cooperation was deemed necessary included battery technology, autonomous driving, AI infrastructures, nanotechnology, carbon capture and storage, climate and biodiversity protection.

CONCLUSION

As this policy brief could show, research security in the context of international research cooperation has come to stay. Whereas the EC Recommendation on enhancing research security applies a country-agnostic approach, defining research security as a means to avoid the undesirable transfer of critical knowledge and technology to third countries in general, we consider more efforts focussing on China only necessary. Given the size of China’s STI system and the country’s two-sided role in global scientific cooperation (contributing scientific excellence and innovation leadership to specific fields, while, at the same time, engaging its HEIs and researchers in R&I foreign interference and misconduct abroad), a better understanding and thorough analysis of the state of affairs in Europe’s research and innovation cooperation with China is highly

overdue. With very many institutions across EU MS involved in research cooperation with China, facing different national legislations, political leaders and, relatedly, awareness levels regarding the topic, a joint-up European approach is difficult to orchestrate. The lack of information on past, running, and planned research cooperations between European and Chinese partners at one central place is an additional obstacle here. In this regard, we hope that the survey conducted with Austrian researchers can provide a good example of how this information could be collected at national level, at least partially (for a more representative overview, more resources would be needed). Thus, apart from all other recommendations drawn in this policy brief, we would like to emphasise the importance of repeating similar surveys in all other EU MS. As the results from Austria have clearly pointed out, there is definitely no overarching wish to de-couple from research cooperation with China, albeit the risks now better known among institutions and individuals. Risks are carefully weighed up against the multiple assets the access to China’s thriving high-tech and research sector means for Europe’s own most advanced and highly-specialised R&I institutions and experts.

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Gábor Szüdi is a researcher and project manager at the Centre for Social Innovation (ZSI) in Vienna, Austria. He has been engaged in several projects dealing with contemporary issues of the science-policy interface. He is the co-leader of the ‘communication and dissemination’ Work Package in the Reconnect China Horizon Europe project.

ENDNOTES

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