Elevating Democracy via Transatlantic Collaboration

Edited by

Maud Descamps

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Institute for Security & Development Policy

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2019, he is also an international advisor to Kreab Worldwide. Beside this, Mr. Gunnar has also served as a member of the European Parliament between 2004 and 2019, in which he was the leader of the Swedish delegation to the EPP. He also served in the Swedish Parliament from 1982 to 2004 as a representative of the Stockholm region.

Dr. Christina Wainikka is an associate professor in civil law and policy expert for intellectual property law at Svenskt Näringsliv. She has an MBA from the Stockholm School of Economics and has worked with intellectual property law issues since the 1990s. For several years, she also sat on the Patent and Registration Office's transparency council.

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Abbreviations

ALLEA	All European Academics
ASPI	Australian Strategic Policy Institute
BRICS	Intergovernmental organization comprising Brazil, Russia, India, China, South Africa, Iran, Egypt, Ethiopia, and the United Arab Emirates
CATL	Contemporary Amperex Technology co, Limited
CCP	Chinese Communist Party
EU	European Union
G7	Group of the seven most advanced democracies
GDP	Gross Domestic Product
GRC	Global Research Council
HEI	Higher Education Institutions
ISDP	Institute for Security and Development Policy
MSS	Ministry of State Security
NATO	North Atlantic Treaty Organization
NSF	National Science Foundation
PLA	People's Liberation Army
PRC	People's Republic of China
SOE	State Owned Enterprise
SPA	Scalable Product Architecture
TTC	Trade and Technology Council
UK	United Kingdom
US	United States
VEA	Volvo Environmental Architecture

Introduction

In collaboration with the U.S. Embassy in Stockholm, the Institute for Security and Development Policy (ISDP) organized a series of conference events from March 11 to 14, 2024, held in various locations including Stockholm, Gothenburg, and a final closed-door roundtable in Luleå with local stakeholders. The goal was to raise awareness and encourage dialogue on the challenges posed by authoritarian regimes exploiting international research collaborations and corporate ownership for illiberal purposes.

The open event featured several prominent speakers, including Dr. Rebecca Spyke Keiser, the first Chief of Research Security Strategy and Policy (CRSSP) at the National Science Foundation (NSF), who discussed the JASON report on Safeguarding the Research Enterprise (accessible at https://encr.pw/irsXL). Other speakers included Dr. Jeffrey Becker from the Center for Naval Analyses, Dr. Tommy Shih of Lund University, Ms. Kristina Sandklef, an independent senior China analyst, Ms. Elisabet Lann, Deputy Mayor of Gothenburg, Mr. Magnus Sundemo, formerly of Volvo, Dr. Andreas Göthenberg from STINT, Dr. Erik Mo Welin of the National Knowledge Center on China, and Mr. Gunnar Hökmark of the Stockholm Free World Forum.

Over the past decade, there has been a notable increase in foreign influence over critical infrastructure and strategic industries across the EU, with Beijing particularly acquiring stakes or full ownership in companies providing essential services or leading technological innovation. This trend poses significant risks, as such control could allow China to exert undue pressure on national economic or security policies within these strategic sectors. Additionally, investigations have revealed that authoritarian regimes might be systematically leveraging scientific collaborations to gain access to intellectual property and dual-use technologies with military and domestic security applications, undermining the principles of open, liberal research.

Despite these concerns, international collaboration remains vital for innovation. Severing all intellectual and financial ties with authoritarian states is neither feasible nor desirable, as research thrives in diverse, global environments where various perspectives and expertise converge. This raises a critical issue: How can we maintain transparent, constructive collaboration that advances knowledge while protecting national security and economic interests?

To address this, ISDP advocates for the creation of a transatlantic platform that brings together scholars, government representatives, and private sector leaders. Such a platform would enable the exchange of experiences and coordination of strategies, recognizing that these challenges demand broad international consensus rather than isolated state-level responses. The conferences aimed to raise awareness and promote a nuanced understanding by examining the risks throughout the innovation ecosystem, sharing best practices that encourage transparency and critical thinking, and developing a research security strategy that preserves the benefits of international cooperation.

1. China's Economic Reach: Implications for Transatlantic Economic Security

Jeffrey Becker

Like many states, the People's Republic of China (PRC) has sought to employ all aspects of its national power to foster technological development while establishing itself as a leader in global science and technology innovation. However, in pursuing this goal, the Chinese Communist Party (CCP) under Xi Jinping, has increasingly sought to harness the nation's private sector, growing, as some have argued, "far more powerful, more authoritarian, and more ambitious" in its dealings with the nation's domestic private firms.[1] This shift has profound implications for the West, complicating efforts to protect critical technology while engaging economically with private Chinese firms.

This expanded control and authority has made it more difficult for Chinese private firms, particularly China's largest private firms with a global presence, to maintain independence and separation from the Chinese state, and is at the core of some of the recent controversies surrounding these firms' operations abroad. For example, in October 2023, Belgian authorities accused the Chinese tech giant Alibaba of using its logistics operations in the country for espionage on behalf of Beijing.[2] Similarly, in December of 2023, U.S. senators raised concerns about the electric vehicle battery maker CATL posing an espionage threat to military bases within the continental United States.[3]

Historically, the Chinese Party-State has long sought to acquire advanced technology from the West through multiple mechanisms, including restrictive joint venture agreements requiring foreign firms to share intellectual property, engaging in investments or acquisitions that provide Chinese firms with

access to technology, or by enticing foreign experts to engage in collaborative research.[4] These activities continue today. However, under Xi Jinping, the CCP's approach to the private sector has evolved in three important ways, which combined, have altered the dynamics of the Chinese private sector's relationship with the global economy.

Increased Monitoring and Greater Influence over Corporate Governance

Under Hu Jintao, the CCP's presence in the private sector remained quite limited. Over the past decade, however, the Party had increasingly come to view its atrophied position in the private sector and society overall as a significant, even an existential, crisis. As a result, it has sought to expand its role in the private sector, first by ensuring that each private firm has a corresponding CCP cell. In these efforts it has been successful. By 2017, about three-quarters of all private firms in China had established a Party organization, including the nation's 500 largest private firms.[5] Moreover, these cells have increasingly taken on formal roles in corporate governance. To date, hundreds of private firms have amended their articles of association to grant their company's CCP organization formal corporate governance authority. At the same time, the CCP has also dispatched party officials to serve in leadership roles in private firms, such as the automotive giant Geely and the tech firm Alibaba.[6] By doing so, the Party has improved its capacity to monitor the activities of major private sector firms and influence their corporate governance and decision-making.

Blurring the Lines between State and Private Sector

Another way the Party is exerting increased control over private firms is by breaking down the distinction between the state and the private sector in China altogether. Over the past decade, the CCP has encouraged joint ventures between Chinese SOEs and private firms, as well as mixed ownership investments in which SOEs and state-financed investment entities acquire a stake in private companies. In return, private firms are increasingly taking investment positions in SOEs, thus making it increasingly difficult to identify a truly "private Chinese company." For instance, in 2000, private firms in

China that received investments from SOEs, or that were heavily reliant on state capital, represented about 16 percent of all nationally registered capital. By 2019, that had more than doubled to 35 percent, while private firms in which the state has invested directly are now responsible for about half of all private assets in China today. This growing financial entanglement between the state and the private sector provides the CCP with another source of leverage over the private firms, while facilitating a convergence of interests between the CCP and private sector.

Compulsory Cooperation through State Laws and Regulations

A third way in which the CCP has expanded its authority over the private sector is through state laws and regulations, which compel private firms to act on the state's behalf. For example, Article 7 of the 2017 National Intelligence Law obligates firms to "support, assist, and cooperate with national intelligence efforts," which effectively obligates firms to assist the state in conducting national intelligence work.[7] The 2023 amendments to the PRC Counterespionage Law provide a legal basis to compel private firms to share sensitive data with the government on national security grounds, which has already affected the activities of both Chinese and western firms operating on the mainland.[8]

Managing a New Stage in the West's Economic Engagement with China

Following four decades of economic growth, Western governments now face a new situation in their dealings with China; one in which the Chinese Party-State has a robust, technologically advanced, and globally influential private sector, as well as the growing capacity to monitor, and at time coerce, key private sector firms to act on behalf of the Party-State. This "technological authoritarianism" poses profound challenges for Western countries seeking to manage economic relations with the PRC while defending the technological innovations and advancement necessary for continued economic success.

Managing the implications of this increasingly intimate relationship between

the CCP and China's private firms will be an important part of the West's foreign economic relationship with China moving forward. While the details regarding any specific policy will change depending upon the industry, sector, and technologies in question, two guiding principles will likely be valuable.

First, it is crucial for the United States and its allies, not only in Europe but also throughout the Asia-Pacific region and elsewhere, to adopt a clear-eyed and strategic approach regarding which technologies necessitate protection, and which may be less crucial. The CCP's increasing control over the private sector renders the notion of engaging with Chinese businesses while keeping the Party-State at a distance obsolete. To be sure, this does not imply that Chinese private firms lack financial incentives, or function solely as extensions of the CCP. However, given the Party-State's enhanced capacity to monitor and coerce these firms—especially those involved in advanced technologies prioritized by the state—Western companies and governments must operate under the assumption that their Chinese partners may be compelled to act on behalf of the state at some point in the future. This assumption necessitates careful consideration of how Western firms, academic institutions, and other entities that seek to protect their technological innovations, while at the same time continue to engage with their Chinese counterparts, balance the acceptable level of risk and the costs associated with protecting specific technologies. Such "strategic discernment" will be essential in navigating any future relationship with the PRC.

Second, as governments continue to evaluate the levels of acceptable risk in their technology protection regimes, it is critical for like-minded nations to share information and cooperate in this endeavor. This includes identifying which technologies require protection and how those decisions evolve over time, as well as monitoring trends in the behavior of private PRC firms and other Chinese actors in their efforts to circumvent these protections and acquire technology on behalf of the state. The path to success in this process will lie in the coordination and collaboration of members of this transatlantic partnership. By sharing information routinely and in a timely manner, like-minded nations can ensure that their strategies remained aligned and effective, and avoid working at cross purposes.

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2. Balancing Research Security and Responsible Internationalization

Tommy Shih

Introduction

In a multipolar world, governments have become progressively apprehensive of the logic of openness under which researchers and universities work due to national concerns over losing economic and technological advantages vis-à-vis other countries. This has been thwarting international collaboration in science and technology. Besides concerns of non-reciprocal knowledge exchanges there are risks related to dual-use technologies,[1] illicit technology transfer,[2] but also ethics dumping, and human rights violations.[3] In many countries, and especially in advanced science nations, such concerns have led to greater efforts to securitize academic research through tougher implementation of export controls, cross-border data management, and protection against cyber threats and infringements on intellectual property rights. The responses have increased restrictions on international research collaboration, particularly between countries in which political and cultural systems differ considerably (e.g., China and the United States), in favor of national interests. With openness being limited, there are growing concerns that global challenges and inequity will not be meaningfully addressed.

Against this background, responsible internationalization is an increasingly popular term to encourage a more balanced and realistic way of building academic relationships in a turbulent environment. At the end of 2023, the European Commission announced that it would develop recommendations for research security and responsible internationalization.[4] The two terms have been used to promote global research collaboration with the aim of promoting

exchanges in research and innovation while protecting the European Union's interests and values.[5]

Overall, the term responsible internationalization has been used to raise awareness of the changed conditions that apply today to international academic exchanges and the need for more responsible practices to limit ethics dumping, illicit technology transfer, or direct military use of research (if not funded for such a purpose). Responsible internationalization is also about managing the opportunities and potential values that can be created in international collaborations and thus focuses on the integrity of research networks.[6] Conversely, research security focuses on the integrity of the national science system.

A pertinent question is, how can research security and responsible internationalization be used to govern international research collaborations, without being in direct conflict? The question has been the topic of recent discussions at the Global Research Council (GRC), in forums coordinated by the European Commission, and for national-level recommendations in Nordic European countries. This chapter highlights some of the guiding ideas, which the author has been actively involved in developing, in these discussions on how to manage the two terms in an integrated way.

Difference between Responsible Internationalization and Research Security

Figure 2.1[7] illustrates starting points for describing responsible internationalization and research security.

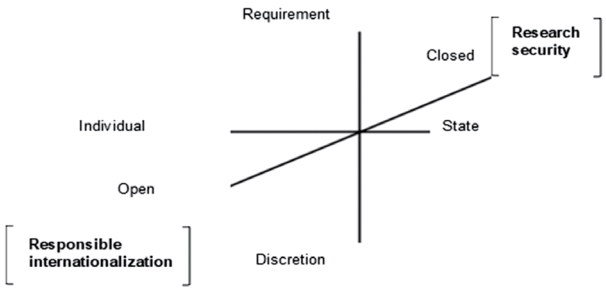

Figure 2.1: Starting points for responsible internationalization and research security

Source: T. Shih, "Recalibrated responses needed to a global research landscape in flux," *Accountability in Research: Policies and Quality Assurance*, 2024, https://pubmed.ncbi.nlm.nih.gov/35900083/.

In research security, the state has an important role in ensuring that laws and regulations are followed. Research is seen as a national resource that must be protected and therefore increased demand is placed on the protection of national interests. In responsible internationalization, the emphasis is put on value creation in open national systems where researchers have a high degree of freedom. Thus, an emphasis is placed on the discretionary responsibilities of researchers within research networks to consider individual, organizational, and national interests.

Gray Areas in International Research Collaboration

To further clarify how research security and responsible internationalization can be used to alleviate some of the pressures from heavy-handed political attempts to overzealously "protect" national science or "decouple" from geopolitical antagonists, we need to distinguish between the no-go zones and research that need to be managed.

First, it is necessary to understand international collaborations as opportunities that are embedded in largely gray areas. The shade of gray is decided by the differences that are encountered by crossing national borders. That is, variations between national and institutional contexts create challenges, such as legal differences, that must be dealt with in international research collaborations. Hence challenges or risks must be managed because there are opportunities worth pursuing. The absence of opportunities and prevalence of only risks would not incentivize collaboration. The challenges can be more problematic (e.g. when a certain type of research is legal in one country but illegal in another) or be more straightforward (e.g. language differences that need to be translated and interpreted). In international interfaces, it is important to adhere to the norms that are part of a researcher's responsibility. These primarily concern aspects relating to research integrity,[8] research ethics,[9] research security,[10] and responsible internationalization.[11] It is important to underline that it is in the gray area where most international collaborations take place. Hence, challenges need to find their solutions within intersections of collaborations.

Second, there is also a relatively smaller black area comprising international collaborations that cross red lines. In general, this can constitute research projects that are directly involved in grave cases of ethics dumping, violations of human rights, violations of sanctions, dual-use[12] or are clear cases of foreign interference. Researchers are generally capable of understanding when they cross red lines in international collaborations. But even if such cases are few, they have considerable consequences and tend to have a significant impact on the public and political perception of international research collaboration.

Third, with the presence of a black area, as well as a white area—which hypothetically comprises international collaborations never experiencing or having to manage differences—it can be understood that there are different shades of gray, within all areas of collaboration. Those collaborations involved in activities adjacent to the black area are much more problematic than those bordering the white area. Hence, the handling and work with gray areas will also differ depending on their nature, problem, degree of seriousness, and frequency.

A Framework

Linked to the grayscale in which international collaborations operate, one or the other approach (responsible and research security) may be useful. Figure 2.2 illustrates when a certain approach is more applicable than the other.

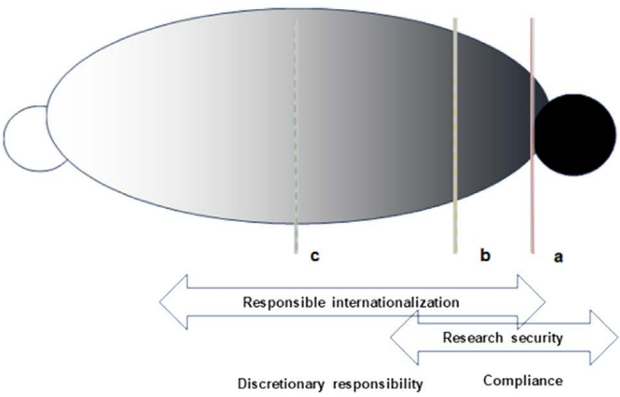

Figure 2.2: Framework for responsible internationalization and research security

Source: T. Shih, "The role of research funders in providing directions for managing responsible internationalization and research security," *Technological Forecasting and Social Change* 201 (2024): 1-10, https://doi.org/10.1016/j.techfore.2024.123253.

International collaborations that position in the black area (**a**), either due to transgressions of laws or grave violations of ethics or human rights, must be suspended.[13] The red lines are often identified through requirements or guidelines at the national level.[14] A major challenge is how to identify these cases. This can be different depending on what the problem is. For example, espionage investigations are the task of intelligence services. Higher education institutions do not have the authority to deal with foreign actors who pose a national security threat. Grave cases of ethics dumping can be difficult to uncover. A whistleblower function may be necessary to that end, and research funders can also identify inappropriate projects during the appraisal process. However, it is important to emphasize that transgressions of laws or grave violations of research standards are not common, and the proportionality of responses is extremely important to consider. Aggressively looking for black area cases can lead to an erosion of the democratic institutions, openness, or academic competitiveness that one wants to protect. Raising awareness and information about the responsibility that researchers and universities have around these grave violations should, however, be an active strategy. But it is important that the academic sector, in consultation with relevant authorities, takes responsibility for identifying what the problems are. Failure to do so may otherwise lead to various intelligence agencies and related actors taking over this work for the academic sector. The research security approach can be suitable for managing the integrity of the national research system in the black area.

In the case where collaborations revolve around the middle of the gray area (**c**), it will be more meaningful to concentrate on discretionary responsibility and focus on managing opportunities, reciprocity, and freedom under responsibility. Planning and risk management should take place in the project with all parties involved. Unilateral risk assessment (that is, by one party) can consist of an analysis that checks that the partner or the cooperation area does not risk serious violations. The risk assessment does not need to be emphasized but can be sound to do if the partner is based in a "country of complex nature" or where the area of cooperation is considered sensitive, for example, from a security perspective. The approach suggested by responsible internationalization is appropriate here.

International collaborations that lie in the spectrum of gray that is approaching the black area (**b**) are the most difficult to manage. The management requires a combination of both approaches (responsible internationalization and research security), and the work must be both reactive and proactive. The appropriate activities include increased awareness and transparency in the research system. A range of actors must be integrated such as research funders, scientific communities, authorities, and university management at different levels. At the same time, academic freedom and institutional autonomy must be respected unless red lines are violated.

Need to Integrate Frameworks for Openness and Security

Scholars of research policy describe the global scientific pursuit as a self-organizing network emerging through the interaction of independent researchers pursuing their own interests and playing by their own norms.[15] Any distinct patterns emerging from scientific collaboration are thus regarded as the creation of interactions in a complex adaptive system. Such a system is often driven by a desire for excellence and science as a public good. Given these networked realities of global science, policy at a national level requires working with the incentives of researchers. Trying to decouple international relationships in science works counter to the goals of scientific excellence at a national level and meaningfully reaching solutions to global challenges.

The framework that has been proposed here is based on the current efforts by a network of research funders working alongside each other at the GRC, initiatives under the European Commission, and national governments (e.g. Sweden, Finland, and Norway) to derive recommendations for responsible internationalization and research security. The main findings from the discussions are twofold. First, it is necessary to clearly define on a basis of principles what constitutes red lines in international collaborations amidst intensifying geopolitical frictions. The risk is otherwise that red lines are pushed to also encroach on manageable international research collaborations. Some indications of how red lines could be drawn are found in guidelines developed for countries, universities, supranational organizations such as the

EU, or by research funders. However, a shared understanding of what these red lines are needs to be developed through an inclusive dialogue and not only from organizational or national perspectives. This could, for example, be done through the work of the GRC.

Second, as most international research collaborations will fall outside of the black area, research communities and universities must also become more responsible by handling a broader portfolio of individual, organizational, and national interests. Awareness raising, developing handrails for how to manage a more complex portfolio of goals, and raising the level of professional judgment in areas such as responsible internationalization and research security are integral to maintaining a global research landscape that is as open as possible.

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3. Research and Innovation in China: Significance and Security Concerns

Kristina Sandklef

For the last 15 years, China has excelled in research and innovation by massively increasing its spending on research as well as encouraging patent filing, which has made China climb the Global Innovation Index from place 43 in 2010 to 12 in 2023. At the same time, China has become one of the most important research cooperation partners for the Western world. This brings many opportunities, but also many challenges. This chapter covers the significance and security concerns of Chinese research cooperation, with a special focus on Sweden.

China has been extremely strategic in its pursuing global leadership within research and innovation, which is key to become a prosperous country. The final goal of the Xi government is for the People's Republic of China (PRC) to be a political, economic, military, and technological world leader by 2049, still ruled by the Chinese Communist Party (CCP).

In order to attain this goal, the PRC has focused on innovation according to different plans, from the five-year plans to more specific plans like *Made in China 2025* (from 2015), *AI development plan* (2017), and *China Standards 2035* (2021). These plans send signals to the academia and local authorities where to focus in order to be rewarded economically and politically. Career hungry bureaucrats make sure that innovation parks sprout all over China.

The core is critical technologies, which are current or emerging technologies that have the potential to improve economic growth. Many of these technologies are

dual- or multi-use and can be used for military means, which means that they could threaten our societies and national security if deployed by our enemies.

By focusing on critical technologies, the PRC can attain two different goals: The economic goal of continuous growth, and the political goal of security and authoritarian rule. The ultimate goal of the CCP is to stay in power, which it can do by continuing to deliver improved livelihood to the Chinese people, while at the same time oppressing them by a massive security apparatus. The People's Liberation Army (PLA) plays an important role as their main objective is to ensure that the CCP stays in power.

Continued economic growth is crucial for the legitimacy of the CCP, but it is a challenge as rapid growth seldom is sustainable and often leads to economic stagnation. One way to avoid stagnation is to climb the production ladder through innovation.

The political goal of internal and external security is closely linked to the security apparatus and the Chinese defense. In order to modernize the defense, China has to pursue domestic innovation or get hold of leading countries' defense innovations by spying or research cooperation.

The economic and political incentives to follow the technology plans from Beijing appear to work. An investigation made by the *South China Morning Post* published in late April 2024, found that 87 percent of the targets outlined by *Made in China 2025* have either been attained or will be attained by 2025. When it comes to *China Standards 2035*, China is working hard to put its citizens in different standards organizations as well as filing for patents and deciding their own global standards, for example within the electric vehicle and battery sector.

In early 2023, the think tank Australian Strategic Policy Institute (ASPI) found that when counting research publications and citations of papers on research in critical technologies, China was the front runner in 37 out of 43 critical technologies.

All this together makes China hard to disregard for any researcher within critical technologies or sciences. China has competence and money; its researchers are competitive and highly qualified. In an era where international cooperation is in focus, it is impossible not to see China as an important research partner.

However, there are many risks with research cooperation with China. Not only are the normal risks there, such as theft of ideas or research before publication, but some risks are linked with the nature of the PRC being a Communist, non-democratic country without many of the freedoms we are used to in the Western world. These risks include a politicized society, civil-military fusion, relations with rogue states, and research security in an EU context.

Under Xi Jinping's leadership, China has become a more authoritarian, politicized, and militarized state. Political repression has increased, and freedom of speech has decreased. The CCP promotes Xi's political speeches in order to increase party loyalty of its 99 million members. Party committees have increased their presence in work units all over the country, from private enterprises to schools and academia. Schools and universities are viewed as especially important areas of CCP influence to form loyal citizens from an early age and top students are later recruited to the party.

This affects research cooperation, as research suddenly can become very political. This is especially problematic when it comes to research cooperation in the fields of social sciences. According to a report by the Swedish National Center on China, Swedish researchers have complained that the CCP is trying to push its political views onto them. Social scientists have less access to Chinese research compared to 15 years ago, both due to increased surveillance and that many archives are now closed to foreigners. Doing research on politically sensitive areas in China is reportedly almost impossible today. This has made many foreign China researchers more outspoken as they no longer fear visa denials.

Under Xi, the persecution of religious minorities such as Muslims, Tibetan Buddhists, and Christians has also increased. Xinjiang has become a test region for the high-tech surveillance state, where artificial intelligence is used to improve facial and person recognition, and researchers are using behavior and genetic material to predict criminality and terrorism. Swedish researchers have been approached to participate in studies of genetic sequencing in Xinjiang, which clashes with Swedish research ethics.

Another major risk with research cooperation with Chinese researchers is the aspect of dual use, especially as technology development can be so fast that it is impossible to see its military use initially. The main risk is however Chinese researchers with PLA affiliations. In 2018, ASPI found 2,000 research collaborations in the West where the Chinese counterpart had PLA background between 2006 and 2017. Not all of them were open about their affiliation with PLA research institutes but had a covert background.

In Sweden, there have reportedly been approximately 20 researchers with PLA background, but it is likely that they are more given the Swedish defense industry and its close links to Swedish universities. Even if the Swedish Security Police and the Swedish Military Intelligence Directorate have pointed out that China is an intelligence threat to Sweden, many research faculties appear to not see the danger and act naïve towards Chinese researchers in the name of academic freedom and internationalization.

Even if the Chinese researcher does not have a PLA background, this person can be forced to give out information due to the Chinese National Intelligence Law from 2017. This law stipulates that all Chinese citizens and organizations are mandated to give information to the Ministry of State Security (MSS) when requested. In Sweden, the only public Chinese spy cases have been linked to refugee spying, but this does not mean that there are no leakages from the research communities to the PLA or the MSS.

One specific problem with Sweden is the 'teacher's exception', which allows a university researcher to use their research to file patents or start companies

without paying the university, which is the procedure in the U.S, for example. This means that it is not illegal for Chinese researchers to capitalize on their Swedish research back home.

Another risk is the new multipolar world order where China is distancing itself from the West and deepening partnerships and friendships with so-called rogue countries, especially Russia and Iran. For Sweden, China's closeness to Russia should be of special concern. A relevant question any Swedish researcher pondering a research opportunity with China is about how the potential research outcome could end up in Russian hands and be used against us in a military conflict.

Finally, the issue of research security is climbing up the agenda of the EU in order to handle risks like "the undesirable transfer of critical knowledge, know-how and technology that may affect the security of the EU and its Member States". In EU documents, China is not mentioned, but it is understood that China is one of the most problematic countries. As research security is less tangible than outright spying, it is more of a challenge for those who want to increase the internationalization of research in Sweden.

In conclusion, China offers many opportunities for research cooperation, but its outspoken goals of becoming a world leader while still being ruled by the CCP should make researchers wary of cooperation without contemplating potential risks.

4. Is Gothenburg Harboring Chinese Interests?

Elisabet Lann

Everybody in Gothenburg knows someone working at Volvo Cars, or at least someone who worked there in the past. It is the largest employer in Gothenburg and its surrounding region, with more than 20,000 employees. A few decades ago, a Volvo came with the first, or at least the second child in almost every family. The inhabitants of Gothenburg have strong historical and emotional ties to the brand of Volvo.

In 2010, Volvo Cars was bought by the Chinese firm Geely Holding. Since then, they have had full ownership. Geely is a private Chinese automotive company which controls several automotive companies in Gothenburg, apart from Volvo Cars, also Polestar and Lynk & Co.

As a consequence of Geely's extensive business in Russia, the company was blacklisted by the Ukrainian Ministry of Foreign Affairs in 2023. This is only one example of how doing business with non-democratic states can be risky.

The electric car company Polestar was launched in 2017 and is already a global brand with headquarters in Gothenburg. Since Polestar has a Swedish profile with Scandinavian design and has its research and development department located in Gothenburg, it's considered a Swedish brand. However, the owner of Geely - Li Shufu - controls almost 90 percent of Polestar.

The relationship between Gothenburg and China can be traced back to the 18th century when the Swedish East India Company was established. With the largest port in the Nordic countries situated in the heart of Gothenburg, the

city has, even after the epoch of the East India Company, been serving as the main trade entrance to northern Europe.

A formal collaboration with Shanghai was established in 1986. This was in an era when many cities were eager to establish economically motivated collaborations with Chinese cities. At this point in time, China was opening to the world, and everybody saw potential in a new huge market.

The agreement between Gothenburg and Shanghai started as a "Memorandum of Cooperation" and it was renewed in 2003 – expanding the agreement to cover many fields such as education, trade, science, economics, green transition, and culture. This agreement was an "Agreement on the establishment of a Sister City Relationship". The plan was for it to be automatically renewed, as long as neither party called for cancellation. This was 10 years before Xi Jinping's presidency.

In the beginning of 2020, there was a follow-up of the agreement between Shanghai and Gothenburg. It concluded that there was no need for three-year updates, nor was there a need to develop further action plans. These conclusions were described, by some, as a cancellation of the agreement, but this is not the case. In fact, an initiative was taken to cancel the agreement, but this was voted down. The majority that voted against the cancellation emphasized that municipalities should not conduct foreign policy. And they were right. Foreign policy is a concern for the national government. Although the municipality has been very helpful in enabling the establishment of Chinese companies of great strategic interest for the Chinese government.

In 2017, the Chinese consulate in Gothenburg was promised a very attractive piece of land for their growing business in the city. These plans were cancelled because of protests from the neighbors. But there are several examples of how leading politicians in Gothenburg choose not to consider the regime's involvement and interests in Chinese companies nor China's impact on the security and integrity of inhabitants of Gothenburg.

Overall, the western part of Sweden is much more exposed to Chinese interests than the eastern part – the capital region. Within the region of Västra Götaland, nearly 25,000 people are employed by China-controlled firms, whilst the corresponding number in the Stockholm region is approximately 650, whereof 100 is employed by Volvo Cars.

There is an evident and substantial resistance in Gothenburg to admit to any downsides of the dependency on Chinese-owned companies, which is understandable considering the impact losing Volvo would have on the city; economically, socially and on all levels of society.

Though there are few, if any, examples of Chinese companies moving their businesses or production, or withdrawing from any establishments as a consequence of political criticism.

It seems politicians tend to exaggerate the risks of speaking up about China violating human rights. At the same time, they are underestimating the risks of dependency on Chinese interests and investments in the city.

In the event of an escalating trade war or a military conflict, more than 20,000 jobs in this region are at risk. Even subtle threats indicating that job opportunities could be withdrawn from Gothenburg could compromise the decisions made by politicians and decision-makers.

This brings forth a risk that the Chinese state already has influence on policymaking in Gothenburg, sharply distinguished from the democratic order of decision-making.

In contrast to private-owned businesses, that are expected to always act in the best of the business, balancing potential risks and rewards, policymakers need to see the bigger picture.

Even if it can be fully rational from a business-perspective to collaborate with Chinese stakeholders and even to transfer control to Chinese owners,

policymakers should be aware of the potential long-term effects on Swedish economy and security.

Here, the politicians of Gothenburg have shown a remarkable lack of insight, whilst it is obvious that the Chinese agenda has a much broader perspective. This is due to the highly centralized Chinese system, where private companies never fully represent their own interest only.

It is well known that the Chinese united front is operating through individuals and party cells in companies and universities in the U.S., in Europe, and in Sweden.

This is why politicians in liberal democracies need to take the interference of the Chinese state and Chinese businesses more seriously, and not blindly commit to unregulated, global and free trade, when it is obvious that China will not commit to common rules of free trade. Substantial government subsidies to Chinese industry have effectively paved the way for Chinese world dominance within the production of solar panels, wind turbines and possibly in the future, electric vehicles and semiconductors.

Politicians across the liberal world, in Sweden, in the EU and in the U.S., have during some years now recognized the risks that come from too close relationships with China and extensive Chinese control over important infrastructure and industry. For instance, the EU recently reached provisional agreement on a European Critical Raw Materials Act, which addresses the challenges of secure and sustainable access to critical raw materials, aiming at significantly reducing the EU's dependence on single third-country suppliers.

Also, last year, the Swedish parliament passed new legislation which regulates foreign direct investments in Sweden, to strengthen national security. Being exposed to Chinese interests could be turned into a competitive disadvantage. There are warnings of a new emerging cold war between China and the United States. In case of a trade war between these two states, Swedish politicians and business-leaders must pay attention to the risk that some of our largest

companies and employers are considered allies of China.

There is, inevitably, a substantial risk that future subsidies and tariffs from liberal countries will impact Gothenburg negatively because of the high proportion of Chinese ownership.

Although the risk of upcoming trade wars ought to be enough to motivate reduced trade and collaboration with Chinese stakeholders, it is far from the only argument to reduce Chinese connections.

The Swedish Security Service warns that China uses extensive and systematic industrial espionage, specifically targeting the west of Sweden. Last year, the Swedish cyber security researcher Pontus Johnson dissuaded people from sharing sensitive information in a Volvo car. This has also been an argument for why Swedish authorities, companies and institutions should choose cars that are not produced by Chinese firms. Just recently a PRC sponsored massive cyber-attack targeting US and European politicians, including 14 Swedish politicians, conducted in 2021 was revealed. So was a large-scale attack between 2010 and 2015 on Volkswagen AG resulting in an enormous data theft with at least 19,000 stolen confidential documents.

There are also problematic inadequacies in transparency of Chinese-owned companies. Numbers in the companies' economic reports are hardly trustworthy. They often lend from different parts within the group, holding company or state-owned banks, with suspicious interest rates. This makes the money hard to follow.

This is the story behind the now many insolvent wind turbine projects in Sweden, controlled by the Chinese state via several affiliates, but could also apply to the electric automotive sector. From the outside, we know little to nothing about the long-term plans that China has for the Swedish automotive sector. What we do know is that the Chinese state is strategically investing in core infrastructure of societies around the world, which consequently leads to dependency and transfer of data to China.

We are no longer talking about decoupling from China. Today, de-risking is considered a possible way. That's something we must actively and gradually do. But for this to happen, politicians need to become aware of the risks that Gothenburg is exposed to.

Meanwhile, all decision-makers in Gothenburg should aim to strengthen the relationships between Gothenburg and liberal cities with similar conditions, for instance in Taiwan, South Korea and Japan. There are several cities like Gothenburg, characterized by its high-tech industry, research and dependency on exports and port infrastructure. Gothenburg should also aim to strengthen the transatlantic link, the relationship and exchange with the United States.

Gothenburg will never be able to make the required transition alone. We need to establish new relations and strengthen ties between companies, cities, and universities in liberal democratic countries. This is a matter of security and freedom of the inhabitants in Gothenburg – and for coming generations.

5. The Incredible Transformation of Volvo Cars under Geely's Ownership - Opportunities and Threats

Magnus Sundemo

These are my thoughts on the remarkable journey of Volvo Cars, particularly during the transformative period under the ownership of Geely. I write from my role as an integral part of this incredible evolution, having dedicated nearly four decades of my professional life to Volvo Cars.

Let me take you through my journey. With a Master of Science in mechanical engineering, my Volvo adventure began in 1979 when I joined as an engineer specializing in exhaust systems. Over the years, I assumed various roles, including engineer, project manager, and line manager at different levels. Notably, I had the privilege of being the project manager for the acclaimed XC60 concept car and served as the head of car concept development in the late 1990s and early 2000s.

During the year as manager for concept development, we ran various projects often together with partners from leading suppliers and also from the academic world. One very interesting project was the Volvo V40 Split Hybrid Desiree project in 1998. We established a joint venture with Aisin Warner, a Japanese supplier that has been the main supplier of automatic gearboxes for Volvo cars for decades. It showcased the year before hybrids became mainstream as what could be achieved when engineers from different backgrounds join forces and aim for a common goal. When Ford bought Volvo in 1999, Ford's technicians had failed to produce a working hybrid despite large government grants, the so-called "Clinton money". Then Volvo Cars simply had to send over its working prototype to show off to the American authorities. This

technology was then implemented in Ford's small SUV Escape, which was produced and sold to American customers. The technology unfortunately never ended up in a Volvo car.

My commitment extended beyond my technical roles, as I actively participated in the union, serving as the chairman of the Volvo Cars Academic Association part-time between 1992 and 1994, and later as a full-time chairman from 2007 to 2016. Additionally, I spent a total of 12 years on the company board, providing me with unique insights into the workings of Volvo Cars.

As a union chairman and member of the board of directors, I have found myself close to the center of power and taken part in Volvo from within. The union-based battles I fought have rarely been of a traditional nature, but instead challenged the view of how union work should be done. One fight was during the Ford years when Fredrik Arp was CEO. Volvo had at that time a reputation for only making fuel-guzzling cars. But we had managed to develop a frugal diesel variant for our small cars which became a so-called environmental car both in Europe and in Sweden. I challenged the management by suggesting that we put this engine in our best seller in Sweden, the estate wagon V70. Volvo's factory in Torslanda only produced Volvo's larger cars and the production numbers were extremely low and many blue-collar workers had been forced to be laid off. I had anchored the idea with the project manager who developed our small Volvo. After a short discussion, I got the OK for the project from management and less than a year later the Volvo V70 Driv-E rolled out of the Torslanda factory as an environmental car, and production volumes increased rapidly.

Volvo Cars underwent three eras under three different owners: AB Volvo from 1979 to 1999, Ford Motor Company from 1999 to 2009, and Geely from 2009 onwards. Despite the changes in ownership, my primary focus remained on Volvo Cars' development department, both in Research and Development (R&D) and Design.

Early on, I recognized the importance of collaboration with leading suppliers,

a fundamental principle ingrained in Volvo's philosophy since its inception in 1927. This approach fostered strong relationships with suppliers worldwide, distinguishing Volvo from its competitors. This became evident during partnerships with Renault and Ford, where Volvo consistently maintained better relations and prices, showcasing the effectiveness of collaborative, win-win arrangements.

When Ford and Renault focused on low price and large volumes and tough negotiations where price was always #1 priority, Volvo invested in cooperation. To jointly find smart solutions and then agree on the price. Volvo was often able to buy in on marginal volumes where the large investments made by the subcontractor had already been paid for by the largest customer. Often, it could be Renault or Ford.

In 2008, when Ford announced its decision to sell Volvo Cars, I was part of the initiative within the Academic union at Volvo Cars to create a consortium, Jakob, aiming to make Volvo Cars an employee-owned company alongside heavyweight investors. Despite our efforts, Geely emerged as the new owner, sparking initial concerns about the impact of Chinese ownership on Volvo's global standing.

However, Geely assuaged these concerns by committing to maintaining Volvo's headquarters, development activities, manufacturing, and other crucial operations in Gothenburg, Sweden. This commitment not only held true but resulted in substantial growth compared to the Ford era.

To protect vital technologies, Volvo and Ford implemented robust measures, creating firewalls between their proprietary technologies. This safeguarded Volvo from potential legal repercussions and hurried Geely on to make substantial investments in developing the new SPA (Scalable Product Architecture) platform and VEA (Volvo Environmental Architecture) engine family, crucial for reducing dependence on Ford.

The unveiling of the first engine from this family at the 2013 Frankfurt Motor

Show marked a turning point, with its impressive performance garnering global attention. The subsequent release of the XC90 on the SPA platform in 2015 solidified Volvo's resurgence, showcasing the unleashed creativity under Geely's ownership.

Geely's impact extended beyond product development; it spurred the growth of the mobility cluster in Gothenburg, aligning with my vision expressed in a debate article in the local paper *Göteborgs Posten* in 2008. "To create a mobility cluster in the Gothenburg area". The current scenario, with approximately 10,000 to 15,000 new jobs in advanced engineering distributed among Volvo Cars, CEVT, Geely, Zenseact (formerly Zenuity), Polestar with their new headquarters, and various mobility-related subcontractors, reinforces Gothenburg's position as a hub for mobile innovation. Add to that the new battery factory jointly owned by Volvo Cars and Northvolt. They will invest SEK 30 billion in the new battery factory creating roughly 3,000 jobs.

Looking ahead, Geely's 2020 announcement of consolidating its automotive businesses into a larger entity prompted concerns about Volvo becoming a mere pawn in a larger game. Together with my successor as the chairman of the Academic union at Volvo Cars, we raised these concerns in a *Dagens Nyheter* debate article titled "What does Volvo gain from once again becoming part of a large conglomerate?" The merger idea was also not well received by Volvo's at that time CEO Håkan Samuelsson and Geely's Mr. An, which resulted in that proposal being abandoned. And I shared their satisfaction that the idea was turned down.

Instead, in October 2021, Volvo Cars went public as an independent entity. While opinions may vary on this decision, it enhances transparency and, hopefully, secures the company's headquarters in Sweden even if the IPO from an investors' view was a disaster. Now, let's explore the challenges and opportunities on the horizon.

Challenges

One challenge stems from the rapid transformation of the community of Chinese engineers. In 2010 when I first visited China and Volvo's R&D office in Shanghai, the Chinese engineers were heavily directed by superiors and were limited in their ability to work independently. They needed detailed instructions. Since then, the situation has changed dramatically. The new generation Chinese engineers are much more self-confident and dare to act without having exact instructions. They have become much more creative and initiative-driven. More like their European colleagues.

This is obvious at Volvo Cars R&D office in Shanghai. On the other hand, the typical Chinese engineer is very focused on his/her own career. If a well-paid job appears with another company, loyalty to the present company is not nearly as high as in a Swedish context. This fact has meant that salaries, for example in Shanghai are equal to the salaries in Gothenburg, which means that the economy is not a strong reason to move jobs to China.

Another challenge arises from the Chinese government's increasingly assertive approach, seeking control in various sectors. Chinese government interference could impact companies like Geely, forcing them to put up certain critical development projects in China. This is, of course, a big threat for all jobs in Gothenburg related to Geely and Chinese governmental interference.

Opportunities

On the bright side, Gothenburg's concentration of unique expertise in mobility represents a significant attraction for any company. Geely's recent investment in the Mobility Innovation Destination Torslanda reaffirms its belief in Gothenburg's potential. Add to that, Polestar's new headquarters and the new battery factory. From Geely's point of view, with its strong vision to be established as a global mobility company, it makes sense to stay in Sweden and Gothenburg and reap the fruits of the large investments made in this city.

Future

The future remains unwritten, and our collective efforts can shape it. With skilled and creative engineers, I believe Sweden, as part of the Western world, can safeguard intriguing job opportunities and compete globally. Freedom will invariably triumph over limitations, and the journey of Volvo Cars under Geely's ownership exemplifies this spirit.

In conclusion, Volvo Cars' incredible transformation under Geely's ownership is a testament to resilience, innovation, and collaboration. As we navigate challenges and seize opportunities, the legacy of this transformation will undoubtedly continue to shape the future of Volvo Cars and the automotive industry as a whole.

And the ultimate key is competitive competence, curiosity, desire and a burning vision that Gothenburg can remain a world leader in mobility now and in the future.

6. International Academic Cooperation in a Complex and Polarized World

Andreas Göthenberg

The world is changing rapidly and becoming increasingly polarized, complex, and uncertain. These changes affect many aspects of academia, particularly academic internationalization. There is a concern that framing research as a security issue may undermine global research collaboration and hamper the rapid development of science seen in recent decades. This happens at a stage when international academic cooperation is needed more than ever to solve the global challenges faced by the world. Thus, the Advisory Board of STINT, The Swedish Foundation for International Cooperation in Research and Higher Education,[1] has addressed the rationale for international cooperation in an increasingly polarized world. This chapter summarizes the report "Rationale for international cooperation in an increasingly polarized world" published in 2024.[2]

The Global Context

The world continues to experience significant changes in international collaboration and attitudes towards academia, as observed in the past decade. Several global challenges of varying kinds deeply affect societies worldwide, including academia. Geopolitical and economic developments have reshaped global dynamics previously dominated by the U.S. These include the rise of China in several fields, such as its establishment as a strong research nation and the formation of a multipolar, but not multilateral, world order. The logic of international collaboration as providing a way to solve common challenges more effectively has, to some extent, been replaced by a zero-sum rationale. Populist and nationalistic sentiments, partly in reaction to migration patterns, negatively affect international collaboration and mobility in various countries.

For the first time in decades, there is war in Europe with Russia's invasion of Ukraine.

Geopolitics has a new multipolarity, with China and the U.S./Western bloc emerging as major players. A loosely affiliated group of nations, not bound by specific alliances, often pursue their individual self-interest and occasionally align with one or the other of the major blocs. Some of these states are members of the growing BRICS+ organization, which some view as a geopolitical rival to the G7.

Arguably governments care about academic internationalization for three main reasons: Economic development, public diplomacy, and national security. Many governments increasingly view internationalization efforts through the lens of national and economic security. However, allowing national security concerns to overshadow the positive aspects of international collaboration may restrict researchers' access to the research front, jeopardize the viability of the innovation ecosystem, and diminish the role of academia in public diplomacy efforts.

The Swedish Context

Economically, Sweden's exports and global brands like IKEA and Spotify give it significant influence. Its EU membership and collaboration with Nordic neighbors further solidify its regional and global impact. In academia, Sweden is known for its strong international collaborations and the prestige of the Nobel Prize. These factors highlight the importance of internationalization for Sweden.

Challenges and Opportunities Facing Swedish International Academic Cooperation

Societal attitudes influence higher education institutions

As Sweden is deeply involved in globalization, the current politically polarized climate affects universities and researchers, reducing international cooperation with certain countries. This may impede scientific progress and adversely

affect scientific quality and development. It is paramount that Sweden remains open to international collaboration with other countries as it expands research capacity, productivity, and economic stability. Internationalization maximizes investments in research through synergies and by sharing ideas and resources. Therefore, reaffirming the importance of internationalization in economic development and public diplomacy is vital.

Academic internationalization boosts the economy

The internationalization of higher education plays an important role in fostering Sweden's economic competitiveness. Extensive evidence shows that knowledge economies are built on the nation's intellectual talent, including the ability to innovate. Recruiting international students and scholars adds new net intellectual capacity to the innovation system and they serve as important intermediaries between nations. International research partnerships expand Sweden's capacity for research and innovation. Such cooperation reaches beyond academia – the business and industry sectors benefit from research directly impacting their activities and from indirect research impact through innovations and life-saving discoveries that create jobs and improve livelihoods.

The special significance of Africa

With Africa's population increasing, 8 of 10 people will live in Asia or Africa by 2100, and about 40 percent of all children worldwide will live in Africa by 2050. This may profoundly affect future cultural and technological development, as young people often are the drivers behind such progress. There are opportunities for collaboration in education, entrepreneurship, and sustainable growth. The progress of technological development is intriguing because many African countries are leapfrogging, skipping technological phases, and catching up with leading countries. Results from such leapfrogging can also contribute to the renewal and upgrading of the Swedish innovation system.

Academia advances public diplomacy and science diplomacy

Soft power is the ability to shape the preferences of others through appeal and

attraction rather than coercion. Public diplomacy is one way in which a nation may utilize soft power to advance its interests. International education sits at the nexus of soft power and public diplomacy. Higher education contributes to a nation's soft power by helping to build international goodwill and influence. Students who have a positive experience in a country may become lifelong ambassadors for the country, promoting its culture and initiatives in their home countries. Educational exchanges and collaborations can provide a platform to promote a nation's values and global outlook. Additionally, science diplomacy, which can take various forms, such as Science in Diplomacy, Diplomacy for Science, and Science for Diplomacy, plays a crucial role in addressing urgent global issues, building trust between nations, and creating international networks even in politically sensitive contexts.

The Way Forward

Responsible internationalization

In an increasingly conflict-filled world, higher education institutions in Sweden must continue to collaborate globally and build connections with diverse partners, including those with differing beliefs and ideologies. This requires university leaders and faculty to possess the necessary knowledge and skills.

In 2018, STINT, together with Lund University, Karolinska Institutet, and KTH Royal Institute of Technology, initiated a report on responsible internationalization. The report emphasized the importance of responsible internationalization and the need for proactive, competent, and ethical approaches at the university and individual researcher levels. Following STINT's guidelines, the Swedish government has in 2023 tasked three agencies to develop guidelines for responsible internationalization. This reflects the shift in the EU's international science policy to a more cautious approach of "as open as possible and as closed as necessary."

Universities play a vital role in national economy and security; therefore, responsible internationalization is crucial. It relies on competent risk evaluation, ethical decision-making, and the absence of discrimination against international students.

Dialogue between researchers and academic leadership is needed to address challenges such as delegating responsibilities, defining boundaries, and promoting a culture of responsibility beyond fulfilling requirements.

Considering multipolar collaboration patterns

The U.S. and China lead in global academic publications, particularly in the STEM[3] fields. The West's publication share is declining, while Asia's contribution is increasing. Other countries and areas, such as Singapore, the Middle East, Latin America, Africa, Southeast Asia, and India, are also growing in academic influence. Consequently, publication patterns will become more varied. However, we know that many of the grand challenges now facing humankind can only be addressed through international research collaboration. Such efforts may also become more fractured, given crumbling Sino-American relations.

Meeting erosion of trust and caring about international talent

The world is facing a state of permacrisis, marked by various successive crises leading to great instability. The erosion of trust in international relations is due to factors such as geopolitical tensions, multipolarity, and the questioning of international norms and agreements. Current nationalistic trends are hostile to international exchange, emphasizing the importance of the nation and national security. However, the higher education sector has the opportunity to become a major catalyst in a new configuration of international engagement and partnerships, benefiting societies at large.

Shifting focus from mobility to civic partnerships with international dimensions

International education and research can address local and regional community challenges while fostering new growth opportunities through civic responsibility and inclusive partnerships. Academia, together with other stakeholders, play a crucial role in addressing issues like global health, climate, and geopolitical challenges.

Regionalization of internationalization

In Europe, collaboration programs like the European Framework Program for Research and Innovation and the Erasmus program are crucial in fostering increased collaboration. Similar trends intensify the regionalization of internationalization in other parts of the world, such as Southeast Asia and Africa.

A new approach to internationalization

The landscape of international academic collaboration is undergoing significant changes due to geopolitical shifts, the rise of multilateral partnerships, a diverse array of partner types, and the crucial role of higher education and research in national economies and security. These changes pose challenges for institutions seeking to maintain responsible global engagement. Traditional approaches to international collaboration must evolve to meet the demands of the evolving global context.

Endnotes

1 STINT's Advisory Board, consists of Bertil Andersson, former President, Nanyang Technological University, Singapore; Agneta Bladh, former Chair, Swedish Research Council; William Brustein, former Vice President for Global Strategies and International Affairs, West Virginia University, USA; Jason E. Lane, President and Chief Executive Officer, National Association of System Heads (NASH), USA; and Nelson Torto, former Executive Director, the African Academy of Sciences, Kenya, and now Senior Government Official, Government of Botswana, Botswana.

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7. Reflections on the EU Recommendations on Research Security: China's Role and the Case of Sweden

Erik Mo Welin

Introduction

The European Commission unveiled its Proposal for a Council recommendation aimed at enhancing research security on January 24, 2024.[1] This comprehensive proposal provides recommendations to European Union (EU) Member States, outlining strategies to strengthen support for higher education institutions (HEIs) and research organizations in enhancing research security. It offers a set of tools and guidance designed to assist HEIs and research funding organizations in assessing risks effectively and improving research security. The proposal comprises a policy document and two "factsheets", the latter which offers more specific advice on how to implement research security and engage in risk appraisal.[2]

While prior efforts to heighten awareness and address risks in research collaborations are not unprecedented, the recommendations put forth in January exhibit notable distinctions from earlier EU initiatives, such as *Tackling R&I foreign interference* in 2022.[3] One key disparity lies in the fact that it is more clearly aimed at individual member states, rather than universities and research institutes.[4] This shift is evident both from the use of instrument in the form of a proposal that is to be adopted by the individual member states, and also from the increased emphasis on the agency of the individual member states themselves compared to the document from two years earlier. By proposing a recommendation for adoption of the European Council, the Commission hopes to be able to ensure political commitment from the individual member states.[5]

Reasons behind the Initiative

While the recommendations themselves were not directed at any specific countries, it's evident that a significant force behind this initiative is the emergence of China as a scientific powerhouse. Over recent decades, China's ascent has been rapid, establishing itself as a frontrunner across multiple scientific fields. Notably, China surpassed the U.S. in total amount of scientific production in 2017.[6] In 2022, China surpassed the U.S. in their share of the total amount of the top 1 percent most cited articles.[7] Although high citation rates do not necessarily mean higher scientific quality, it is a clear indication that China is now a leading nation.[8] Research indicates, for instance, that China can be considered a leading nation in research fields related to chemistry, nanoscience and Artificial Intelligence.[9] In parallel, research collaborations with China has increased exponentially in many European countries. In Sweden, China is now the fourth most represented country in international research collaborations.[10]

China's progress in scientific research and rise as a science nation, needless to say, does not inherently pose a problem. However, concerns surrounding China's scientific ascent are intertwined with the shifting geopolitical landscape, partly shaped by China's economic, political and scientific strategies. Recent years have witnessed increasing geopolitical tension, where science and technology have become more and more important in the competition for future global dominance, not the least between the U.S. and China. In this context, China has launched several initiatives aimed at bolstering its scientific technological development. Central to these efforts is the pursuit of self-reliance, where the goal is to make oneself less reliant on western knowledge in science and technology.[11] This strategic direction has raised alarm among European policy makers, who fear that Europe might be left behind the scientific race.[12]

As China's influence grows, it is increasingly perceived as a threat to European security by both the EU and its member states. Therefore, the publication of the recommendations on research security within a large framework of economic security, as a part of the European Economic Security Strategy initially presented in June 2023, is significant.[13] This attempt at integration

of scientific research into broader strategy, under the concept of "research security," sends a clear message to research institutions, universities, and most importantly, the national governments of EU member states. It underscores that scientific research must also be regarded as part of the broader goal of achieving "open strategic autonomy" within the EU, and that research activities must be subjected to security concerns.[14]

The EU proposal thus addresses both more tangible and more abstract, perceived threats. The more immediate and concrete risks include an increasingly large amount of evidence that research funded by the EU and EU member states has collaborated with researchers with links to the Chinese military and defense industry.[15] Multiple reports in recent years have divulged how research projects funded by the EU's flagship research program Horizon are working in sensitive technology areas with universities that have links to the Chinese military.[16] There is also an increasing amount of evidence that China is conducting industrial espionage at universities and research institutes in multiple European member states. China has also increased the integration of the civil and military sectors under present rule of Xi Jinping,[17] meaning that the risk of research contributing to Chinese military has increased significantly, particularly within dual-use technologies.

The proposal also addresses a second issue, namely the growing apprehension regarding China's economic competitiveness and nationalistic policies as a potential threat to European security. Science and technology are increasingly seen as a key to future global dominance, not the least between the U.S. and China. China's scientific and technological nationalism is seen as a threat to European security in the long run, where a scenario with increasing Chinese dominance in multiple scientific and technological fields may leave Europe dependent on China and therefore leave EU and its member states vulnerable. Recently, Australian Strategic Policy Institute, for instance, released a report in which they listed 44 so-called "critical technologies" that may be deemed critical to a society's long-term survival and security.[18] In other words, China's scientific and technological nationalism pushes the European Union to scientific protectionism.

None of these issues are easy for Europe to address, and the initiative is akin to a formidable challenge. On the one hand, the initiative is proof that the EU is attempting to deal with the challenge and real risk of lagging behind China (and the U.S.) in the race for technological and scientific supremacy in the twenty-first century. This makes the initiative to include "research security" within the broader strategy sensible. On the other hand, the initiative risks jarring with core principles of academic freedom and openness, and the research community is increasingly concerned that security concerns will infringe on their ability to conduct research.[19]

What Can EU Member States Do? The Case of Sweden

In the Swedish context, the European Commission's recommendation is unlikely to change policy direction. In reality, the Commission's emphasis on more involvement by national governments mirrors a development that has already taken place in Sweden in recent years. Sweden has transitioned from minimal involvement from the national government to an increasingly active role in shaping policy.

Until recently, the responsibility for managing risks with research collaborations with international partners rested largely with the universities and individual researchers themselves. However, following several reports in the media disclosing cases where Swedish HEIs had collaborated with Chinese researchers,[20] the national government recognized the imperative to take action. As a result, three government agencies were tasked to develop national guidelines for "responsible internationalization" in order to support researchers and universities.[21]

However, Sweden's experience highlights the complexities inherent in government efforts to mitigate risk in research collaborations. For instance, in 2023, amidst heightened media-scrutiny, the government suggested mandating security expertise on university boards, reducing board member's terms from three years to 17 months.[22] This proposal sparked controversy in the research community in Sweden, reflecting concerns that increased government intervention risks alienating the research community, the latter

which tends to perceive attempts from the national government as risking infringing academic freedom and institutional autonomy.[23] At the same time, there are indications that many HEIs are incapable of handling issues of "research security" without more support from the government. The lack of clear guidelines from the national level also risks backfiring on research collaborations, making HEIs overly cautious in choosing which collaborations to pursue in order to avoid scandals.

Despite these complexities, there are a number of things that can be done by the Swedish and other national governments as well as HEIs to mitigate risk and fulfill the EU Commission's vision of increased "research security." The initiative from the government to develop national guidelines is arguably a step in the right direction, in the sense of communicating a general policy direction decided on a national level conjoined with guidelines.[24] Nonetheless, considering the risk of alienating the research community, the national government will probably have to refrain from micromanagement of research collaborations, instead implementing more thorough support structures for HEIs, in increasing awareness of the issues at hand, and continuing cultivating a culture of "responsible internationalization".

Furthermore, there exists another initiative that may be considered, one that entails a change of mindset and a reassessment of certain assumptions about science. Scientists often perceive themselves as global citizens[25] and often work with the assumption that scientific principles are universal and bereft of any inherent non-epistemic values. Even if this (often questioned)[26] assumption is true, China's rise as a science nation underscores the necessity of viewing science as a social – or even political – activity and approached on its own terms in its local and political context. Therefore, another important initiative which can be taken is to increase the country-specific knowledge – most importantly, on China – among Swedish HEIs. Here, HEIs can here increase cooperation between research institutes and policy institutes with knowledge on specific countries, and engage country specialists in their own institutions to increase knowledge on science in its local contexts.

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8. Towards a New Era of Resilient Alliances: The North Atlantic Knowledge and Innovation Treaty

Gunnar Hökmark

Elevating democracy in our time is one of the most important means we have to preserve peace. This should be done in cooperation between the world's two major democratic entities: The United States and the European Union.

Let me begin with a few words about democracy. Democracy is *not* the worst of systems except for the alternatives, as Winston Churchill once phrased it.

Democracy is a fantastic system, not only for governing a country but for allowing society to develop. In democratic societies, there is room for innovation, new ideas, and continuous improvement in all areas of life. People have the freedom to create music, join orchestras, play in sports teams, engage in scientific groups, and enjoy life. They can discuss politics, culture, and life openly, and they have the power to correct political mistakes and change policies.

This is why dictators fear democracy, often in almost ridiculous ways. They are afraid of pensioners demonstrating, students chanting, and journalists writing editorials. Repression grows with their fear. Putin and Xi may appear mighty, but they dare not face their own people. This tells us that defending free societies is about defending the inherent freedom within them. This freedom fosters the innovation, creativity, and dynamism that dictatorships stifle.

Dictatorships are no longer confined to distant lands. In our interconnected, digital world, their influence reaches everywhere. This integration means that the logic of dictatorships doesn't stay within their national borders. They are

not just "there" but also "here," threatening our economic force, innovations, societal integrity, and human dynamics. These elements must be defended.

In Sweden, we are celebrating our recent membership in NATO, a defense alliance that has strengthened our security and regional stability. The Swedish public widely supports this membership, recognizing the military threats we face, particularly from Russia. The full-scale war in Ukraine and Russia's and Putin's rhetoric of being at war with the West highlight these threats. They range from covert operations and targeted attacks to nuclear threats. Each level of threat is interconnected, and failing to address them at lower levels increases the risk of escalation.

Below the ladder of military threats lie the gray zone challenges, who are not so much about guns and tanks, but rather cyber-attacks, industrial espionage, weaponized trade, corruption, disinformation, and sabotage. These are part of an ongoing hybrid warfare that targets economic force, innovations, and societal integrity.

The European Union is a relevant alliance for addressing these threats, but it is not enough. These threats are global and must be faced globally. It is certainly not, as with Russia, something that can be seen as a threat only to Europe. It is to some minor extent a matter of Russia but much more about China as well as hostile regimes in other parts of the world, such as Iran or North Korea. Their threats are global. The EU needs the U.S., and the U.S. needs the EU just as much. Together, we must think about new alliances in areas beyond the military to deal with the numerous threats to democracies.

From here in Stockholm, we can see where the old Sweden met the world through trade. Our history of exporting goods like iron, copper, fur, and agricultural products to Europe laid the foundation for our global economy.

Today, long distances are no longer a barrier, and the difference between "here" and "there" has diminished. Today, knowledge and information move at the speed of light, making our friends and enemies equally close.

The last 30 years have accelerated this transformation into a new global economy. Open societies, democracies, and economies are more exposed to attacks than ever before, not just through warfare but also through ongoing gray zone conflicts. The main production factors—intelligence and knowledge—are global and constantly moving. The coming 30 years will not at all be a change from the economy of old times, it will be a development of the world as it has emerged till today.

This means that open societies, democracies and economies are more exposed for attacks than ever, not just in operations of war but also in the ongoing war in the gray zone that is fought with all the means of hybrid warfare. The more digital, the less territorial.

In a world that is simultaneously larger and smaller, what happens far away can have an immediate impact here. This makes it easier for antagonistic actors to operate from a distance, often invisibly or without attribution. We need alliances to counter these threats.

A first reflection should be that this is not the time for "strategic autonomy" or "sovereignty" as has been discussed in Europe. Supporting Ukraine against Russia demonstrates that it is about more than military means; it involves high-tech, digitalization, and economic sustainability. The EU and the U.S. need each other to stand against threats that challenge the free world. We must "hang together, or we will all hang separately," as was said during the American Revolution.

A second reflection is that globalization has increased wealth and prosperity worldwide, reducing ultimate poverty and improving living standards. This progress is a result of increased trade, global financial markets, and the spread of knowledge and intelligence. Open economies benefit the most from this growth because democracies are inherently better.

A third reflection; the global influence of transatlantic economies has decreased relative to others. Ten years before Russia's invasion of Ukraine, the EU and

U.S. had a significant economic advantage over China and Russia. A clear advantage for democracy and the free world. No questions about the economic leadership and the global impact on the international order.

Today, the EU's GDP is comparable to China's, while the U.S. remains larger. On the global scene China is more important than Europe, and in reality, competing with the U.S. to be the leader in Asia, Africa and even Latin-America.

Together, the EU and U.S. are still larger than China but not by the same margin. Adding allies like Japan, South Korea, Australia, New Zealand, and Canada strengthens this lead, but it is not as dominant as it once was. Democracies are no longer as dominant as they used to be. A consequence of that prior domination is that the international order developed for a long time along the lines of western democracies.

The fact that we are not as dominant as before has implications for democracy in the world, the future international order and human rights. This is an ongoing threat to democracies and to democracy as such in the global perspective. And the threat is transformed to reality by warfare in the gray zone, where warfare is fought in the shadows of dictatorships.

We need to keep the global economy open and integrated, but we also need to understand that free trade in its real meaning means trade between free societies. State-controlled trade is never free. And in economies where the state is controlling all business, we will never have free trade in its real meaning. This should not – once again - lead to protectionism which would make democracies weaker but instead lead to awareness. And without awareness, the risks for protectionism will in the long run be overwhelming.

How to deal with the threats in the gray zone and modern warfare is a complicated issue in this perspective. It is a little bit like squaring the circle, but it is possible if we start from the following points.

1. Today everything can be of geopolitical importance – because it is a part of the knowledge society and advanced products as well as advanced services can be of dual use and be weaponized,

2. Furthermore, in the gray zone nearly everything has dual use, disinformation, TV channels, corruption, ownership of industries, cyberwarfare and hacking,

3. Innovations are defining leadership, competitiveness and military strength more than the size of GDP. Innovations are the key to geopolitical force, and they will be more important for geopolitical force than the economic impact as counted in GDP.

4. We need to differentiate between science, inventions, and innovations. Innovations are in a way much more formative for geopolitical force. Innovations are about how you use new knowledge and inventions. Innovations are in reality a result of clusters of knowledge and science, formed and stimulated by freedom and competition that still will be local and physical.

5. Distances of today – the more digital, the less territorial means that innovations can be used everywhere, but they will still come from somewhere where those things happen. And these clusters will still be rooted in culture and traditions with physical roots.

6. Clusters of excellence and leadership, formed through connection and cooperation, are vital for defending our societies. For instance, advancements in artificial intelligence, quantum computing, materials science, biomedicine, and genome research are strategically important. By leading in these areas, we set global standards based on our values. This leadership ensures our superiority, not protectionism.

7. In order to ensure we can be the leaders, we must be just as open to import as to export. That's the only way we can form transatlantic clusters and

> leadership ahead of others. Historically the exporter was the winner, now it is the one importing knowledge and intelligence that has the opportunity to be the winner, provided we can use and develop knowledge and innovations better than others. Instead of so-called strategic autonomy and sovereignty, we need to foster strategic capacity and capability through the flow and the structures of strategic alliances that bind us together and define our leadership.

So, we should have a new North Atlantic Knowledge and Innovation Treaty with alliances and common programs in all these strategic areas. We shall be totally open for the competition, development, and cooperation that can be established between us. The digital economy gives a good example. Instead of the EU risking undermining economic growth, competitiveness, and security by digital protectionism. Digital protectionism, as we see many signs of, would risk Europe's competitiveness in mainstream industries that rely on edge computing, and would certainly not increase European competition in large-scale digital platforms.

The better digitized we are, the better capacities we will have. The better telecom we develop the better capabilities for change we will have. The more leading we are in sciences the more we will be able to globally set the rules and standards of open societies. In this framework, we can set up joint science centers as well as joint science and research programs, stimulating the emergence of new centers of excellences and transatlantic leadership in all strategic areas. By this new transatlantic alliance, we can form a joint market stimulating further innovations by its own economic impact.

The EU and America share a legitimate need to secure supply chains and strive for technological leadership in all areas. These aims are weakened by indiscriminate trade impediments but could be strengthened by carefully crafted alliances.

That's why we should give the U.S.-European Trade and Technology Council (TTC) a new start and these new strategic ambitions with cooperation on

cyber security, common research, and common trade stances toward countries such as China. The EU and U.S. should do this with the UK as a partner with further focus on all advanced technologies such as artificial intelligence, quantum systems, hypersonic missiles as well as in the areas of biotech, biomedicine and genome and material research.

We shall not be closed for trade, not with anyone, except for those exposed for sanctions. Yet, by leadership we can set the rules for a fair and open international trade, based upon the values of the rule of law. The transatlantic alliance should, instead of protectionist rules, be designed in a way to promote joint clusters of technologies, science and innovations so that the democracies of the world can be in the lead.

9. Risks and Opportunities – How Can They Be Balanced in an Era of Geopolitical Challenges

Christina Wainikka

Key Elements of the Knowledge Economy

Few would doubt that large parts of the humanity today live in a knowledge economy. This can be observed from several different perspectives. One is the growing importance of intangible assets. These assets are increasingly important for the value creation of businesses, not only for the companies that are working with technical innovation. What is important for businesses is also important for the economy, which means that intangible assets are important to consider when countries evaluate their competitiveness.

Examples of how this is addressed can be found all over the world. From a European perspective, it can be noted that when the European Commission presented their Industrial Strategy in 2020 one part of that strategy was an Intellectual Property Action Plan. In fact, that action plan was the first item in the press release regarding the Industrial Strategy.

Several countries around the world have adopted national strategies on innovation and intellectual property. Some examples are Finland, Denmark, South Korea, and Brazil. The list is getting very long. It can be noted that a country like Botswana today has an IP strategy, where the goal is that the economy of Botswana is to be IP-driven in little more than a decade.

However, if something is becoming increasingly important, it is also likely to become part of international tensions. Since we live in a world geopolitical tensions, it is no surprising that even intellectual assets are affected. We have

seen it in discussions regarding the TRIPS waiver, linked to the COVID pandemic. We have seen it in political debates. We have seen it in concrete actions. Sometimes it is even described that intellectual property rights, and other intangible assets, are today a part of the international battlefield.

Global Value Chains and Geopolitical Challenges

Businesses today are almost all part of global value chains. This is true for the ice-cream kiosk at the local beach and, of course, also true for larger corporations. To give one example, the recent instabilities in Europe raised new discussions in Sweden on artificial fertilizers. Currently, all those fertilizers are imported, there is no domestic production. Not only do businesses work in an international environment with international co-dependences, this is also true for research.

The international networks, international co-dependencies also lead to new challenges in the midst of evolving geopolitical tensions. In previous eras of less international cooperation, geopolitical tensions may not have been as dramatic as they are now.

It can also be noted that globalization in a knowledge economy in itself poses new challenges. Protection of intellectual property is based on international conventions and international agreements. This is good, since it creates a common understanding among countries. One example is the Paris Convention that has 179 contracting parties. In other words, 179 countries in the world have agreed to have industrial rights such as patents and trademarks. Another example is the TRIPS Agreement, signed by 164 countries.

Intellectual property does therefore have a solid international legal foundation. However, there is room for national solutions. The international conventions and international agreements are based on a principle of territoriality. In Germany, German copyright applies. In the U.S., America copyright applies and so on. As a consequence, this may lead to complex situations as the value chain is global while the legislation is bound to territory. Complex situations lead to high transaction costs, not beneficial for anyone (apart from perhaps lawyers).

Risks

When looking at risks in an era of geopolitical challenges, one must start by listing the major risk of aiming for minimizing contact with others. It must be remembered that history has very few examples of high cultures developing through isolation. Isolation cannot be the solution to handling geopolitical challenges.

There are, however, other risks as well when international research is considered. One risk is that the people involved, whether researchers or others, lack understanding of the importance of intangible assets. In fact, they may even lack an understanding of the actual value of their ideas and their research results.

This may be seen as contradictory that researchers do not see the value of their work. After all, their work is dedicated to developing knowledge. However, they are also living in an environment where "publish or perish" is a mantra. Having discussions on research security has not been on top of their minds. During the last couple of months, these issues have been discussed increasingly in Sweden and in Europe. It may seem as a rather late awakening, where many other parts of the world have done strategic work in the field for decades.

From national perspectives, it is important to continuously analyze the potential risks and to use those analysis to make strategic decisions. It must be a balance between security and openness, based on updated information.

Opportunities

In a text like this it is easy to point out the risks and the challenges. However, it is also important to point out the opportunities. International collaboration is in itself something that is beneficial for all. To give one very European example: The creation of what is now the European Union has in fact given Europe a long period of peace and stability. Meeting and working across what used to be borders has made Europe stronger.

Adam Smith pointed out the importance of division of labor. One advantage of international collaboration is that we can use our respective strengths in

a way that is beneficial for all. That is key to why businesses have strived to become part of global value chains. It is also key to why researchers strive to collaborate internationally, with the best in their respective field. Working at an international level is good for the economy but also good for development of knowledge.

One opportunity to consider is also to learn from each other. There are parts of the world that for a longer period of time have seen developments and acted upon them. There are learning points not the least regarding structures, collaborations, guidelines and so on from other parts of the world. In order to balance risks with opportunities, we should look at others that do acclaim the importance of openness as well as the importance of security. The opportunity lies in finding the "like-minded" and establishing ways to collaborate.

Conclusion

In any challenging situation, or where we face new situations, it is important to learn from others and to collaborate. If we are desiring to collaborate, we also need to understand that we share risks. One expression for that is that no chain is stronger than the weakest link.

In order for any actor to be attractive for collaboration, within business and within academia, it is important to address what might be a concern for (potential) counterparts. In an era of new geopolitical tensions, research security is increasingly becoming a decisive factor. Isolation is not a solution. Not taking any actions to protect intangible assets is, however, not a solution either.