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Responsible internationalisation at KTH Royal Institute of Technology: Interpretation and implementation

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Recommendations to higher education institutions on how to work with responsible internationalisation



STINT

Stiftelsen för internationalisering av
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Preface

The mission of STINT, the Swedish Foundation for International Cooperation in Research and Higher Education, is to internationalise Swedish higher education and research. STINT promotes knowledge and competence development within internationalisation and invests in internationalisation projects proposed by researchers, educators, and leaderships at Swedish universities.

Internationalisation generally generates value for research and higher education. However, the global research landscape is becoming more complex as greater diversity is seen in the group of countries today producing high quality research. Higher education institutions (HEIs) and researchers thus need to relate to a broader portfolio of conditions (e.g., legal, cultural, political or ethical) in global engagements. Hence it is necessary to be able to identify, assess, handle and monitor the opportunities and risks of international collaborations. To address some of the challenges HEIs encounter, STINT together with Karolinska Institutet, KTH Royal Institute of Technology and Lund University, published a document on responsible internationalisation in 2020.

In this two-part report, some experiences of promoting responsible internationalisation at Swedish HEIs are presented. The first part, written by Dr Tommy Shih, Associate Professor, Lund University, and former Policy Director, STINT, and Dr Miriam Garvi, Founder and Director, Vision Pioneers, summarises the experiences from four Swedish universities and suggests a general model for how HEIs can address responsible internationalisation. The second part, written by Dr Tommy Shih and Prof. Stefan Östlund, Vice President, KTH Royal Institute of Technology, presents the case of KTH and its work with responsible internationalisation. Prof. Sylvia Schwaag Serger, former Deputy Vice Chancellor, Lund University, and former Chair, STINT, reviewed and provided valuable input on the first part of the report.

Dr Andreas Göthenberg
Executive Director, STINT

Stockholm, September 2022

Part 1

Recommendations for the promotion of responsible internationalisation at Swedish higher education institutions

*Dr Tommy Shib,
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former Policy Director, STINT*

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Introduction

The world is increasingly being impacted by global challenges such as pandemics, climate change and biodiversity loss. The work towards alleviating the stress on our planet require international collaboration. Given the greater need for global cooperation, Swedish higher education institutions (HEIs) face more challenges in an increasingly uncertain and complex world.¹ The global academic landscape has been relatively open since the fall of the Berlin Wall in 1989. However, recent years have illustrated how quickly borders can be closed and collaborations terminated because of security, ideological or political concerns. HEIs with international activities must consider the competition between different political and scientific poles such as the United States, Europe and China, and resulting changed conditions for global cooperation.

World developments in recent years have shown that sudden tensions, for example geopolitical friction, are primarily managed reactively.² Strategic internationalisation at Swedish HEIs is often characterised by path dependence, making it difficult to develop new approaches and practices that meet the needs that arise in a more changeable, complex and uncertain global landscape. Such a transition is demanding, not least because HEIs need to develop new approaches to meaningfully and responsibly manage the relations that individual researchers and academic departments have across the world. At the same time, the development of such an approach must be integrated with the existing operations and activities of the HEI. Forward-looking work must therefore be done in a context in which old structures, habits and behaviour meet new needs and challenges.

In 2020, STINT, with Karolinska Institutet, KTH Royal Institute of Technology and Lund University, published a document on responsible internationalisation with the aim of providing guidance in transitional efforts.³ The concept of responsible internationalisation⁴ aims to give direction to the transitional efforts of HEIs and may be described as follows:

Internationalisation creates value for research and higher education, but differences between countries also lead to challenges. In order to continue engaging

¹ This uncertainty has increased due to the Covid pandemic, the war in Ukraine, ongoing climate change, biodiversity loss, protectionism, widening social divides, authoritarian consolidation and changed power balances.

² The war in Ukraine for example led to the abrupt termination of relations with Russian organisations, including research and higher education institutions.

³ Shih, T., Gaunt, A. & Ostlund, S. (2020). *Responsible internationalisation: Guidelines for reflection on international academic collaboration*. Stockholm: STINT, 2020.

⁴ Responsible internationalisation emphasises accountable practices in internationalisation. This perspective cannot be decoupled from other important societal issues with international facets, including mobility, internationalisation at home, sustainability, or Agenda 2030, but instead takes such issues, at the interface between internationalisation and the question of responsibility, as its starting point.

in meaningful international collaborations over time, it is important to manage the challenges that risk further undermining an open global academic landscape. Responsible internationalisation is a concept that aims to help raise awareness of the need for responsible practices and behaviour in international partnerships and at home, as well as strengthen the capacity to create such practices.

STINT's document on responsible internationalisation identified aspects that HEIs should consider in their internationalisation, based on recent world developments. The purpose of the document was to raise awareness of the issues related to an increasingly complex global landscape, but provided no concrete advice on how HEIs are to deal with the challenges they face – this was described as the responsibility of individual institutions. The aim of the present report is to show how HEIs can promote responsible internationalisation. It describes challenges as well as ways forward, based on the experiences of four Swedish HEIs.⁵

Commencement of identifying challenges at the HEIs

During 2020, STINT initiated discussions with university leaders, researchers as well as administrative staff at several Swedish HEIs to broaden understanding of responsible internationalisation. Specific initiatives for promoting such efforts were introduced at four Swedish HEIs. Two of these were comprehensive universities (Lund University and Örebro University) and two highly specialized universities (KTH Royal Institute of Technology and Karolinska Institutet). Activities included lectures, workshops, seminars, the development of an overview of challenges connected to internationalisation, and project formations. Initiatives proceeded differently at these HEIs, due to differences in their:

- Academic profiles
- Degrees of internationalisation
- Experience base in internationalisation
- Organisational structures
- Leaders' roles and active involvement in the initiative

Despite organisational differences, the participating staff and researchers from the universities often identified similar problems and concerns related to internationalisation in moderated meetings (the main issues identified by university staff are summarized in Tables 1-5). Through the stated challenges the STINT moderators could recognize general patterns regarding the broad spectrum of challenges and

⁵ Specific examples are not linked to individual HEIs in this report.

possible solutions. This indicates ample opportunity to address responsible internationalisation both at organisational and sector levels. Ethical and moral considerations that research, administrative and teaching staff need to make in international collaborations were for instance covered, and there was much discussion of the research opportunities available abroad. Another important issue was internationalisation at home. Challenges faced may for instance be related to the need to better understand more heterogeneous groups of foreign students and researchers/teachers who study and work at Swedish HEIs. Below follows a discussion of the spectrum of challenges currently faced by Swedish HEIs.

Internationalisation leads to opportunities but may also have unanticipated consequences

At all four HEIs, internationalisation is generally regarded as a value creating necessity at an ambitious, relevant HEI. The opportunities highlighted included more publications, increased visibility and greater impact for researchers and their HEI. The possibilities of attracting students from outside Europe to degree programmes and for own students to spend some time abroad to gain experience of the wider world were also mentioned. Another focal area was internationalisation at home, which both leads to a more internationally diverse environment and gives staff greater understanding of the world and different cultures. Important issues at strategic level were related to HEIs' international competitiveness and safeguarding their reputations. The latter largely manifested in a focus on risk management and avoiding bad publicity.

At the same time, issues arose that showed how difficult it is for internationalisation to become a natural, integrated part of operations. The challenges identified differed depending on the staff's areas of responsibility and experiences of internationalisation. Many of the administrative challenges were for example identified by support services staff. Ethical issues were primarily raised and discussed by research and management staff. Leadership groups were also preoccupied with questions related to the brand and reputation of the HEI. Educational challenges, arising in the light of a changing world and increasingly international and heterogeneous student groups, were mainly discussed by teachers with administrative responsibilities in educational programs. All groups mentioned the issue of internationalisation at home, and discussions touched on a considerable variety of aspects. A selection of issues discussed in different areas can be seen in Tables 1–5.

Table 1: Examples of leadership challenges

Challenge: Strategic leadership	Aspects identified in discussions
A local mindset is prioritised over a global outlook.	Students are trained to meet the needs of employers looking for graduates that suit their (often local) operations. Simultaneously, the world changes and new approaches must be introduced in degree programmes. It is unclear how HEIs can play a leading role in this area and how educational leaders can contribute to change.
Acute operational needs relegate developmental work to second place.	Acute issues are prioritised (“putting out fires”) and efforts to bring about change are characterised by path dependence. Usually there is insufficient resources and even funds earmarked for internationalisation disappear into ‘ordinary’ operations.

Table 2: Examples of challenges related to internationalisation at home

Challenges: Internationalisation at home	Aspects identified in discussions
International students’ and researchers’ integration into the Swedish academic system.	International students and researchers are not a homogenous group, and HEIs must better understand their needs. How can HEIs also ensure that these students and researchers are offered appropriate support based on their needs?
Attrition of international students who commenced a degree programme.	Attrition may be due to financial difficulties and students finding jobs to fund their stays or support their families. In some cases, support staff have seen indications that students regard their admission as a ticket to Europe (they may not have been interested in studying).
Homogenous research groups at HEIs.	HEIs have international environments, but at the same time some research groups only comprise doctoral students/researchers from a single country. Leaders regard this as counterproductive to internationalisation. This may also result in behaviour that deviates considerably from that of other groups, e.g., regarding work hours, publication requirements, view of authority, etc.

Table 3: Examples of administrative challenges

Challenges: Administration	Aspects identified in discussions
Administrative support to students is disjointed at HEIs, and this affects the study situations of international students.	Too many actors are involved (and there is insufficient transparency between actors), too many factors cannot be controlled, and questions fall through the cracks. It is difficult to keep up with applicable regulations and know who can answer what specific questions. Students also do not know whom to ask about practical issues concerning living in Sweden.
Blunt instruments are used to assess international students' prior knowledge. This sometimes leads to considerable differences between students on the same programme and affects educational quality.	How can HEIs improve selection so that they admit students who are well equipped to thrive in the Swedish higher education system? What legal provisions are there and what would be appropriate criteria?
Access to information relevant to the questions one encounters.	Knowledge is often dispersed through the organisation. Administrative staff are expected to handle a broad spectrum of problems, but their mandates are limited by their organisational roles and insight into the issues at stake.
Insufficient trend analysis.	Developments in the world need to be monitored. But what exactly should be monitored? Support services' trend analyses tend to focus on risks and there is often a lack of long-term, forward-looking trend analysis.

Table 4: Identified ethical challenges related to internationalisation

Challenges: Ethics	Aspects identified in discussions
Grey areas emerge in international collaborations.	Legislative differences between countries create uncertainty about which rules apply to international collaborations. The risk that researchers exploit such grey areas (ethics dumping) was discussed.
The promotion of responsible internationalisation is reactive, and a lack of experience hampers proactive efforts.	There is a realisation that the 'new' conditions that have arisen due to broader internationalisation must be addressed, but a lack of experience impedes making considerations in practice and ahead of time. Examples include ethical dilemmas, grey areas, different incentive systems, etc.
Boycotting is easier than developing responsible practices.	There is a risk of abstaining from collaborations due to a potential partner's nationality.

Table 5: Examples of educational challenges

Challenge: Strategic leadership	Aspects identified in discussions
Lack of understanding for the learning context from which some groups come.	Educational systems differ considerably between different parts of the world (Asia, Africa, South America, etc.; “learning by heart”). We generally know too little about how these systems work and how they affect students’ ability to benefit from pedagogical tools commonly used in Sweden (critical thinking, problem-based learning, group work, etc.).
How to adjust degree programmes to reflect increasing complexity.	Students will need to relate to a more dynamic and polarised world, irrespective of whether their future careers are in the public or private sectors. HEIs need to consider the current situation when developing subjects and disciplines.

The challenges identified in the tables indicate effects of internationalisation that must be addressed. Teaching staff for example mentioned the attrition of students from outside Europe after starting their programmes, and that integrating international students into the Swedish system poses a challenge. Further, the intention of creating a diverse international environment at home may be hampered by the formation of homogenous research groups with strong subcultures at the HEI.

Unanticipated consequences of research collaborations are one of the areas that is hardest to handle. Grey areas emerge due to differences in legislation and practices between countries. These grey areas may result in research being conducted that would have been impermissible in Sweden (i.e., ethics dumping). However, the research may be legal and ethically approved in the country where it is conducted, and therefore ethical issues and questions around appropriacy arise. There are few direct instruments to deal with ethics dumping – it must be addressed through training, information and value-based efforts.

The challenges posed by responsible internationalisation that affect operations are mainly reactive. At the same time, strategy-related aspects show that forward-looking, visionary efforts are limited in this area. This can for instance be seen in internationalisation management models that lack the capacity to raise awareness of the need for responsible practices and behaviour in international collaborations and at home and sustain such practices. The next section looks more closely at two underlying problems, namely that performance management is inadequate for developing such efforts and that risk management per se does not build responsibility in an organisation.

Discussion

In this section, various important observations from efforts to promote responsible internationalisation at the different HEIs are discussed, focusing on underlying problems that hamper the management of differences and arising tensions, as well as the development of new approaches and practices. The situations at other Swedish HEIs are likely similar.

Performance management does not suffice – deeper efforts are needed

The collected empirical material illustrates that HEIs manage opportunities and challenges related to internationalisation in different ways. Differences for instance result from the experience base at the HEI, as well as the view of leadership roles in relation to operations. Simultaneously there are deficiencies throughout the governance models employed to manage internationalisation, regarding the capacity to recognise important effects, including unplanned ones, as well as handling the complex considerations that arise in changing situations.

Overall, we find that internationalisation efforts at these HEIs largely centre on the planning and monitoring of quantitative objectives, which is reflected in the influence rankings have on strategic decisions. It is of course easier to measure developments in internationalisation based on quantitative objectives (e.g., agreements, the number of international programmes, accreditation, etc.) rather than impact objectives. However, the identified challenges are not related to issues that can easily be performance managed. Instead, qualitative internationalisation efforts, which place greater emphasis on impact objectives, are called for. Such impact objectives may for example include strengthening the international competence and understanding of staff, or clarifying the broader responsibilities of research and teaching staff in international collaborations. Although notions of responsibility often are included in different considerations surrounding internationalisation, we deem larger, better-structured efforts necessary.

Responsible internationalisation focuses on more structured considerations in outreach efforts at the interface between academic value,⁶ science diplomacy,⁷ risk management, ethical considerations and relationship building in a polarised world.⁸ Further, it also involves promoting internationalisation at home, and increasing the capacity of leaders, researchers, teachers and supervisors to handle the needs of foreign students and colleagues based on their backgrounds. In other words, responsible internationalisation is an approach to the continuous outward and inward internationalisation at HEIs.

⁶ See pp. 8–9 in the government's Internationalisation Inquiry (SOU 2018:78)
<https://www.regeringen.se/4a7533/contentassets/2cf334f2792c42d4b8c414076eb59204/summary-in-english-internationalisation-of-swedish-higher-education-institutions>

⁷ https://www.stint.se/wp-content/uploads/2022/02/STINT_Science_Diplomacy.pdf

⁸ <https://link.springer.com/article/10.1007/s10734-021-00712-9>

Broader, deeper competence is today needed to handle the complexity arising in international collaboration, and not least the grey areas that emerge. In practice, the approach should be neither naive nor paranoid, i.e., neither completely open nor too restrictive.⁹ Instead, practices must be shaped that reflect the will to manage conflicting objectives without resorting to one or another extreme. Conflicting objectives are for instance evident regarding fee-paying international students from developing countries, since some do not apply to Swedish HEIs with the intention of studying. This challenge may easily be managed simplistically, either by focusing on restrictions or by protecting the financial opportunity presented. The alternative is to engage in dialogue based on the HEIs' possibilities to provide better support to these students, while finding more effective ways of identifying prospective students with clear educational ambition. Responsible practices must therefore be based on empathy, i.e., the ability to better understand circumstances considerably different from one's own, but also on sound principles.

Reactive risk management does not build organisational responsibility

Tables 1–5 indicate that many of the challenges identified reflect the reactive management of the effects of internationalisation: leaders largely concentrate on risk management, while visionary, forward-looking efforts suffer. This situation results from the complexity and difficulty of handling the spectrum of challenges that arise in an interconnected global academic landscape. The government's call on HEIs not to collaborate with Russian institutions has for example affected nearly all Russian partnerships, including those with individual researchers, and means that important collaborative fields such as Arctic research suffers.¹⁰ HEIs' approaches to China, today a leading research nation in for example materials science, chemistry and quantum communication,¹¹ are also characterised by low granularity. Discussions of whether to collaborate with researchers at Chinese institutions are frequent. This polarised approach does not facilitate the development of the capacity to deal with the grey areas that form a large part of the reality faced by HEIs and researchers.¹²

Greater knowledge of grey areas must not only be related to risk management, but also to the ability to grasp the opportunities offered by increased internationalisation. Here we identified knowledge gaps in many areas. It was for example evident that the interviewed teachers do not consider developments in the wider world in students' education. Researchers show insufficient awareness of their own roles in

⁹ Shih (2022). Recalibrated responses needed to a global research landscape in flux. *Accountability in Research*. <http://dx.doi.org/10.1080/08989621.2022.2103410?src=&journalCode=gacr20>

¹⁰ <https://www.economist.com/science-and-technology/russian-and-western-scientists-no-longer-collaborate-in-the-arctic/21809236>

¹¹ <https://www.nature.com/articles/d41586-021-01405-0>

¹² Shih, T. & Forsberg, E. (2022). Origins, motives and challenges in Western–Chinese research collaborations amid recent geopolitical tensions – Findings from Swedish–Chinese research collaborations. *Higher Education*. <https://doi.org/10.1007/s10734-022-00859-z>

pushing boundaries as well of the implications thereof at different levels. Administrative staff feel limited by their mandate and scope for action, which reflects a silo mentality at HEIs.

The issues mentioned above highlight the need for strategic, visionary leadership that is clearly connected to operational activities. Although problems may be addressed structurally, for instance by clarifying areas of responsibility or improving provided information, living dialogue and exchange of experience are needed. It is therefore essential that processes take shape that keep internationalisation efforts and dialogue active through concrete activities and broad networks. The discussion below looks more closely at how such a transition may be initiated and led. It is important that both leaders and the broader organisation participate and that activities at different levels are integrated.

Figure 1: The various starting points for HEIs' transitions

Low degree of internationalisation	High degree of internationalisation	
A	B	Decentralised approach
C	D	Centralised approach

Responsible internationalisation: The various starting points for HEIs' transitions

There are considerable differences between departments, subjects and disciplines regarding responsible internationalisation, as well as between the progress made at different HEIs in the areas of research and education. Based on the present project, we suggest a simple classification of appropriate approaches (see Figure 1). Depending on their degree of internationalisation¹³ and preference for more centralised or decentralised models of decision making, the HEIs may be divided into four groups.

Based on the four scenarios sketched in the figure above, the following situations and needs are highlighted:

- A. The HEI has a relatively low degree of internationalisation, and therefore a narrow experience base. International collaborations are often the result of in-

¹³ See <https://www.stint.se/stint-internationaliseringsindex/>

dividual initiatives. Due to a decentralised approach with regards to decision making, problems related to internationalisation are handled on an ad hoc basis, and considerable time may elapse between cases that need to be highlighted and discussed more broadly. Challenges are therefore less visible at leadership level. Because there is a narrower accumulated experience base in the organisation, it is harder for support services to provide structured assistance. An understanding of responsible internationalisation practices may be improved by documenting existing cases at the HEI or using examples from other HEIs. Researchers can learn from complex cases to develop their capacity to handle grey areas. Leaders may benefit from cases and experiences from other HEIs to develop a forward-looking dialogue beyond risk management.

- B.** A high degree of internationalisation has resulted in a broad experience base, but strategic efforts regarding responsible internationalisation are unclear. A decentralised approach means that signals and experiences come from the capillaries and there is the risk that leaders are merely reactive. A larger HEI with a decentralised model has greater flexibility in handling problems where they occur, but risks losing organisational coordination. The discussion of responsible internationalisation is fragmented. Organisational dialogue is needed to understand experiences and the most common or severe challenges. There is also a need to disseminate good practices throughout the organisation.
- C.** This group of HEIs has a narrower experience base and internationalisation profile. Deeper insight into existing collaborations is gained, but this is concentrated to smaller constellations. A narrower experience base means that leadership tends to be influenced by the challenges encountered by other HEIs. Accordingly, there is the risk that the organisation does not recognise such challenges and that a gap arises between strategy and practice. An understanding of responsible internationalisation practices may be furthered by consciously promoting a broader exchange of experiences between teaching or research staff, both within the own organisation and with other HEIs.
- D.** The HEIs has a broad experience base and efforts can proceed from concrete examples. The leadership has an overview of challenges and can indicate a coherent direction for responsible internationalisation. However, due to a top-down approach, reaching and involving research and teaching staff is a challenge. The volume of cases necessitates the development of routines, but these should not become too bureaucratic or rigidly based on overly strict guidelines. Centralized approaches can have drawbacks, such as increased bureaucracy, reduced ability to act quickly, or potential infringements on ac-

ademic freedom. However, the most complex cases/challenges must be identified and handled more centrally. In order to deal with grey areas, the organisation should focus on building a culture that enables staff at different levels to develop responsible practices in the light of new challenges.

Model for responsible internationalisation

STINT's document on responsible internationalisation provides guidance to Swedish HEIs by identifying several aspects in which greater accountability is necessary. The document refers to the broader range of interests and challenges that an internationally active HEI must consider at present and in future. This report has highlighted different experiences of addressing such issues and indicated possible focus areas for HEIs, depending on their current situations. Below we suggest an organisational model for systematic responsible internationalisation that aims to develop the capacity of staff and the organisation to recognise and handle the complexities of internationalisation. This iterative model suggests creating points of reference (concrete examples) that may form the basis of specific projects aimed at connecting organisational and strategic aspects. Experiences of such projects contribute to fostering preparedness and a forward-looking approach at all organisational levels (Figure 2).

Figure 2: Steps in the iterative process



Creating points of reference:

- *Convene groups to discuss the challenges of internationalisation.* These meetings can be based on participants' self-identified challenges as well as existing cases from the own organisation or other HEIs.

- At highly internationalised HEIs, exchanging experiences in heterogeneous groups may form a solid basis for developing a better understanding of the challenges regarding the issues the organisation should highlight as of strategic importance (centralised approach).
- At HEIs with low degrees of internationalisation, examples from other Swedish HEIs may be used to create understanding for the issues that may be encountered by a HEI that seeks to increase internationalisation.
- Create an overview focused on what the organisation does. Capture experiences related to responsible internationalisation and aspects identified by staff where gaps or conflicting objectives emerge.

Mobilising to build shared knowledge:

- *Proceed thematically.* The concrete examples evident in an overview create opportunities to identify themes particularly relevant to the HEI (see Tables 1–5). Such themes may include internationalisation at home or mobility. A thematic approach facilitates the collection of examples from across different groups in the organisation. This knowledge development can be done in both heterogeneous and homogenous groups.
- Develop engaging projects. Implement concrete projects to highlight challenges and co-create possible solutions. Such projects should contribute to bridging identified divides and raising awareness in the organisation. Projects aim to highlight and manage actual conditions, while building deeper, more structured knowledge of different challenges, and help to connect a vision with the present situation. A project may for example concern extending the cases used in teaching to better reflect the understanding of the world students need today.

Connecting the operational with the visionary:

- *Formulate the HEI's internationalisation aims, in relation to the descriptions that emerged earlier.* The projects and cases that are implemented or discussed contribute to a better understanding of the divides between how different groups understand the world as well as between understandings of how internationalisation works and actual situations. If diversified relations are desired, for example with developing countries/regions with lower-ranked HEIs, objectives need to be formulated. Impact objectives must take precedence. Ways in which HEIs create meaningful relations should be formulated, rather than lists of demands.
- Identify conflicting objectives. Highlight areas in which different objectives come into conflict and careful consideration is needed. Examples of such conflicts include tensions between discrimination, national security, academic

value, and academic freedom. Here one can greatly benefit from drawing on the concrete cases developed earlier (in the overview and projects).

- Use the practices that have emerged to build an understanding of what responsibility entails. Training may be a good way of disseminating the good practices that have developed to other areas and networks. More points of reference and broader mobilisation may also be promoted through training. It is important that efforts do not peter out, because responsible internationalisation involves living dialogue and knowledge building as the world changes.

Final remarks

If responsible internationalisation is to be promoted, a broad transition and shaping of a culture are necessary. The model proposed above aims to systematically, and manageably, build and extend involvement in responsible practices. The willingness of staff to be active is essential – responsibility must not be regarded as located higher in the organisation. Involvement may for example be fostered when staff design activities themselves, based on their understanding of the contributions they can make to such an approach, and based on the support they should request from their organisation. If value is to be created for the HEI, active involvement from inside the organisation must ultimately be combined with real support from the leadership to promote deep-going responsible internationalisation.¹⁴ Delegation from above without the active participation and support from leaders often leads to ad hoc solutions that also compete with the daily operational activities of staff. Without the support of leadership, efforts to promote responsible internationalisation will be fragmentary and disorganised.

Since 2020, responsible internationalisation has become an issue considered by Swedish HEIs, but there is a lack of structured approaches and knowledge building in the area. This report recommends a simple model for more structured efforts aiming at broadening and deepening involvement in the organisation. Experiences from our project have shown that there are good opportunities to promote responsible internationalisation both at organisational and sector levels. We therefore regard Swedish HEIs as having good prospects to lead the transition to the new approaches and practices needed in the light of the global circumstances currently faced by academia.

¹⁴ At KTH Royal Institute of Technology, the leadership has for example actively chosen to inform and raise awareness of this need at all management levels (centrally, at schools and at departments), which has resulted in a clear organisational mandate and a view that the issue of importance.

Part 2

Responsible internationalisation at KTH Royal Institute of Technology: Interpretation and implementation

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Introduction

Higher education institutions (HEIs) and researchers increasingly engage in cross-border collaborations to boost competitiveness, broaden their resource base, disseminate results and generate benefit. At the same time, researchers and HEIs face an increasingly complex world. Today collaborations today place across a wider geographic spectrum; countries that were not traditionally strong science nations have quickly developed scientific capacity close to, or sometimes matching, that of Western countries. Some countries that have rapidly increased their science capacity include China, Singapore, Pakistan, Saudi Arabia and Iran. This development facilitates broader collaboration patterns, both through direct relationships and partners' research contacts. Against this backdrop, it is important that researchers, university leaders and officials improve their understanding of the changed conditions that currently prevail.

In 2020, STINT published a document on responsible internationalisation to provide guidance in these issues.¹⁵ Both individual researchers and HEIs are tasked with ensuring responsible behaviour before, during and after a collaboration. This of course entails adherence to laws and regulations (e.g., in academia or the discipline), but also involves sound judgment and the ability to analyse the value and challenges of collaboration. STINT's document identifies a number of aspects of international collaborations that researchers should approach with appropriate consideration. This document may be regarded as the basis for further efforts to strengthen the capacity of individuals to develop meaningful organisational structures and processes.

The present report describes the promotion of responsible internationalisation at KTH Royal Institute of Technology (hereafter KTH), particularly regarding training initiatives, and raising awareness of the increasingly complex conditions faced by researchers and HEIs engaged in international collaboration. The aim is to show how HEIs may address these issues and inspire others.

Internationalisation at KTH

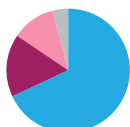
KTH is an international university with extensive international partnerships in research and education. Around 70% of all research publications are international co-publications.

¹⁵ Shih, T., Gaunt, A. & Ostlund, S. (2020). Responsible internationalisation: Guidelines for reflection on international academic collaboration. Stockholm: STINT, 2020. https://www.stint.se/wp-content/uploads/2020/01/STINT_rapport_Responsible_internationalisation.pdf

Already in 1993, KTH introduced international master’s programmes. Today c. 650 fee-paying international master students are admitted annually, along with 700–800 European master students. In addition to the students completing their degrees at KTH, there are c. 1,000 exchange students. The tuition fees introduced in 2011 radically changed conditions for attracting students from outside Europe. However, through extensive goal-oriented recruitment efforts, not least in Asia, KTH has increased international student recruitment. Approximately a third of the fee-paying students are now from China, with another third from India, and the final third from the rest of the world.

Table a: Share of international collaborations (2018–2021)¹⁶

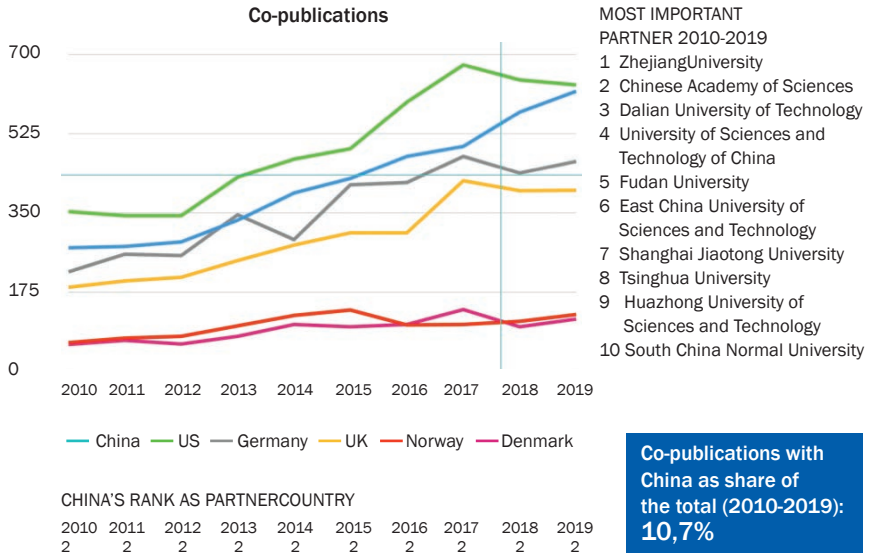
Metric		Scholarly Output	Citations	Citations per Publications	Field-Weighted Citation Impact
International collaboration	68,2%	15,275	191,498	12,5	1,87
Only national collaboration	16,4%	3,685	28,326	7,7	1,21
Only institutional collaboration	11,5%	2,574	13,795	5,4	1,18
Single authorship (no collaboration)	3,9%	881	4,190	4,8	1,08



Partnership agreements for education include student recruitment from a number of top Chinese universities. KTH also has an agreement with the China Scholarship Council (CSC) regarding doctoral students. At its height, KTH admitted 40–50 CSC doctoral degree students annually, but today the number is around ten. The number of CSC doctoral guest students staying at KTH for a year has instead increased. KTH’s management has long promoted international research collaborations proactively. These are primarily with Europe and the United States (the largest individual partner country). Collaboration with other parts of the world, particularly in Asia, has also increased. Intensified collaboration, not least with Chinese HEIs, has led to significant research partnerships and a large quantity of co-publications. Today co-publications with China are the second-largest source of KTH’s total co-publication volume (see Figure a).

¹⁶ Data retrieved from SciVal (Elsevier).

Figure a: KTH's co-publications with China¹⁷



Other significant partner countries and regions in Asia are Japan, India, South Korea and Taiwan. Because of longstanding research connections, KTH researchers can most easily build on collaborations with the United States and especially with European countries. There is also a robust funding system for intra-European collaborations in the European Union. Partnerships outside of this ‘Western axis’, particularly with Asian partners, do not enjoy the same access to funding. They are usually based on a combination of strategic initiatives from KTH’s side, but also on a considerable contingent of international teaching and research staff with connections to these part of the world as well as KTH researchers’ opportunities to obtain funding and resources from ‘the other side’. Such collaborations outside Europe have particularly been boosted during the last two decades.

Challenges posed by international collaborations at KTH

A technical university often needs to review various security issues in the area of technology and its possible uses in collaborations. However, it is essential to consider contextual factors and maintain transparency in collaborations. There is a lower risk of ‘inappropriate’ technology use when researchers have adequate knowledge and

¹⁷ Data retrieved from SciVal (Elsevier).

there is a culture of transparency and accountability. The more comprehensive mentality recommended in the STINT document on internationalisation poses a challenge, because both value and challenges need to be considered in the analysis. Internationalisation at home is another area that KTH needs to develop further.

Outreach efforts

Research and teaching at a technical university often have clear strategic significance, due to dual-use activities, i.e., with both civil and military applications. A higher level of security may be achieved through various administrative and technical control functions. Administrative control may for instance entail better review of the processes surrounding research partnership agreements, while secure data management is a technological measure.

Collaboration with business is common; research may also be significant in industrial development and could therefore attract undue interest. Simultaneously, transparency in international collaborations and publications is as important and it is essential that research integrity is maintained. The starting point of KTH's efforts has been to reduce the risk of inappropriate collaborations by avoiding these at an early stage, if possible. This would decrease the strain on internal processes as well as on relations with partners in sensitive countries considerably. Planned research collaborations are often terminated late in the process, leading to disappointment and irritation (not least for our own researchers) and the fruitless investment of substantial work.

Internal efforts

KTH also focuses on internationalisation at home. Integration is a challenge requiring that attention be paid both to Swedish staff and students and those with foreign backgrounds. Research groups led by international professors, in which most doctoral students have the same nationality or educational background as the professor, pose a further challenge. This may result in a parallel operation into which the university has limited insight, with work conditions that may deviate from the norm at Swedish HEIs. Such groups comprising mainly Chinese researchers and doctoral students have developed, but so have groups dominated by other nationalities. In some cases, these groups have functioned well and contributed greatly to KTH's development, but near all of the schools at KTH have experienced similar problems and had difficulties resolving them. It is therefore of the utmost importance that we strive for a culture in which responsible international collaborations are treated similarly, irrespective of the researchers' nationalities or backgrounds.

Table b below summarises some of the research-related aspects that have been discussed by KTH's central and faculty management in the area of responsible internationalisation, including the measures taken and foreseen future areas.

Table b: **Managing research-related aspects**

Aspects	Measures	In future
Dual use	Control function in central support services	New grey areas
Strategic products	Control function in central support services	Increased demands, leading to situations in which the university neither has the competence nor resources required
Contract management	Control functions at the schools and in central support services	Increased demands for forward planning, leading to a time-consuming process

KTH's implementation of the document on responsible internationalisation

Most international collaborations are initiated through contacts between researchers. It is almost always necessary to weigh different aspects of internationalisation against each other: collaborations with sensitive countries or partners are seldom black or white. Collaborations with researchers in authoritarian countries may be involved, or partnerships with HEIs where research largely has military or defence aims. It is important to be prudent, but not necessarily to refrain from collaborations. High demands are placed on individual researchers and organisational support structures to steer such collaborations in directions that take current conditions into greater consideration. KTH would therefore like to focus particularly on strengthening researchers' capacity to reflect on and assess the potential of collaborations, including on the challenges a project or partnership may pose. The hope is that inappropriate collaborations will be terminated at an early stage or never even be commenced.

Although administrative services play an important role in supporting researchers, it is important to recognise that responsible internationalisation is an extensive area. The organisation risks drawing up extensive guidelines or material that becomes too vast to be easily grasped. Researchers consequently cannot easily implement such documents and guidelines. A further risk is the creation of a control system that researchers regard as bureaucratic and unwieldy, while to some extent signalling that international collaborations are bothersome and should be avoided. When researchers have a deeper understanding of the conditions for implementing a partnership, they

will also know if and when they need external support, while the university at the same time can identify the type of organisational support that must be offered. Table c below summarises some of the opportunities and challenges that emerge when responsible internationalisation is promoted by university management.

Table c: **Opportunities and challenges**

Opportunities	Challenges
<ul style="list-style-type: none"> - Researchers receive general guidance on aspects that must be considered in international collaborations so that these fulfil integrity requirements and are more viable in the long term. - Decreasing the number of inappropriate projects at an early stage. - The process builds trust among researchers and indirectly also with their partners. 	<ul style="list-style-type: none"> - Risk of unwieldy administrative processes. - Too much micromanagement. - Collegial regulatory power is diminished and individuals relegate responsibility to management.

Steps taken to raise awareness

KTH has chosen to use different initiatives to structure the promotion of responsible internationalisation (see Table 4). Primarily, the aim is to boost competence throughout the organisation in order to build a culture in which international collaborations are viewed positively, while reflection on these is seen as natural. One focus area has been training initiatives. Starting from university management, KTH has extended these efforts to discussions with school and departmental management. Some issues concern all levels, but each management level also brought new concerns to the table. Some of the reasons why different measures were implemented are detailed in Table d.

Table d: **Measures**

Measure	Reasons
- Training	- Being able to offer modules in leadership training and courses for supervisors
- Top-down in the organisation	<ul style="list-style-type: none"> - Compelling management to support efforts lower in the organisation - Preparing management levels well for the questions asked by researchers
- Dialogue in collegial networks	- Establishing an exchange of experiences with faculty and individuals with extensive experience in the area

Training seminars for various constellations was chosen as a way of boosting the capacity to assess what responsible behaviour in international collaborations entails. These seminars are based on STINT's document on responsible internationalisation. However, this is a complex issue that often generates questions that cannot easily be answered. KTH decided that knowledge must be built top-down, i.e., from university management, to school management and then to department heads until researchers and teachers are finally reached. This approach was chosen to avoid a situation in which for example researchers seek answers from those higher in the organisation and do not receive clear, considered guidance from their immediate managers.

During 2021, seminars were conducted with the president's management team, the international council and the management of the five schools. The seminars have primarily been structured so that a theme from STINT's document on responsible internationalisation from 2020 was presented, followed by a discussion of general problems. Finally, specific cases were presented followed by reflections on these. The format varied somewhat depending on the group, because participants had had different experiences. The first seminar rounds were highly appreciated and confirmed that top-down training was a meaningful strategy. Of course, managers know that this is a complex area, but the opportunity to reflect on different issues and scenarios was still very rewarding, because not everyone was always aware of the extent nor had reflected on how a positive image of international collaboration is created. KTH has noticed a certain tendency to focus on security issues and controls, but also increased awareness of the difficulties involved.

Further efforts

KTH has further addressed responsible internationalisation more broadly. In 2022, seminars were conducted with department heads. It should be noted that management staff at KTH largely are Swedish, while there is a large international contingent of teachers and researchers at departmental level. This has increased the demand for conducting truly inclusive seminars. At the same time, inadequate behaviour must be highlighted without singling out staff with certain backgrounds.

The next step is to allow research staff to gain a deeper understanding of responsible internationalisation. Responsible internationalisation was for example a topic of the collegial forum during the spring semester of 2022. These efforts must remain active and further seminars and exchange of experiences will be encouraged by university and school management. In addition, a module on responsible internationalisation is planned for inclusion in courses for prospective associate pro-

fessors and managers. The ambition is to reach current and future research supervisors. A retreat is also planned for university and school management. The importance of responsible internationalisation must be communicated by management and efforts should enjoy support from above. This involves facilitating the dissemination of information, structures and learning, as well as fostering a culture of reflection and accountability.

KTH's management has commenced a process to strengthen the capacity of staff to reflect on international collaboration. This strategic initiative requires that staff regard this as a relevant issue in which they have a stake, as well as greater knowledge and awareness among all staff: researchers, managers and naturally also administrative staff. Management considers this a strategy that will serve the university well. At the same time, it is evident that there sometimes are clear-cut limits for collaborations that may be determined nationally. KTH believes that its continued efforts would benefit from a limited number of clear national guidelines based on the European Commission's guidelines.¹⁸ It seems unnecessary that all HEIs start from scratch and perhaps even take the wrong approach to the problem. KTH's management would still like to emphasise that this should absolutely not result in a protracted process with many complicated guidelines. That would result in lost opportunities and the intended support would become an administrative burden instead of providing assistance in shaping responsible relations.

¹⁸ <https://op.europa.eu/en/publication-detail/-/publication/3faf52e8-79a2-11ec-9136-01aa75ed71a1/language-en>

STINT, The Swedish Foundation for International Cooperation in Research and Higher Education, was set up by the Swedish Government in 1994 with the mission to internationalise Swedish higher education and research.

STINT promotes knowledge and competence development within internationalisation and invests in internationalisation projects proposed by researchers, educators and leaderships at Swedish universities.



STINT

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