



**Australian Government**  
**Department of Education,  
Skills and Employment**

# **Inquiry into national security risks affecting the Australian higher education and research sector**

**Submission from the Department of Education, Skills  
and Employment to the Parliamentary Joint  
Committee on Intelligence and Security**



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## 1. Introduction

The Department of Education, Skills and Employment (the Department) welcomes the opportunity to provide a submission to the Parliamentary Joint Committee on Intelligence and Security (PJCIS) *Inquiry into national security risks affecting the Australian higher education and research sector*.

The Department works to ensure Australians can experience the wellbeing and economic benefits that quality education, skills and employment provide. Our primary focus is to equip Australians—at all life and career stages—with knowledge, skills and attributes to live well, thrive at work and contribute to community life.

A secure higher education and research sector is critical to the Australian economy and national interest. Australia’s higher education and research sectors deliver innovative research and intellectual property, and create employment in science, new technology and advanced manufacturing. International collaboration is essential to achieving these benefits. However, the success of Australia’s higher education and research sectors and its need to remain globally connected, place it at risk of interference from foreign actors.

Through various initiatives across Government and universities, particularly the implementation of the *Guidelines to Counter Foreign Interference in the Australian University Sector* (the Guidelines), higher education institutions and researchers have far greater awareness of foreign interference, undisclosed foreign influence, data theft and espionage issues, and are better prepared to identify and respond to these threats than ever before. At the same time, the Department acknowledges the evolving nature of threats and recognises that ongoing engagement is crucial.

Part 2 of this submission outlines action the portfolio has taken to mitigate foreign interference risks in the sector. The Department works closely with the Counter Foreign Interference Coordination Centre in the Department of Home Affairs, and other departments, to support the sector to respond to the risks. Portfolio agencies, the Australian Research Council (ARC) and the Tertiary Education Quality Standards Authority (TEQSA), are also working to mitigate risks.

Part 3 of the submission provides an overview of some of the regulatory aspects of the higher education and research sectors referred to in Part 2, and details the benefits Australia derives from international research collaboration.

The Inquiry’s Terms of Reference are at Part 4.

## 2. Education portfolio activities to address foreign interference

The Education portfolio has implemented the following initiatives to build resilience to foreign interference in the higher education and research sector:

- worked with the sector to implement the *Guidelines to Counter Foreign Interference in the Australian University Sector*, released in November 2019
- established the *Enhancing Cyber Security in Higher Education* project to strengthen resilience of the Australian universities sector to cyber threats
- established a new Higher Education Integrity Unit within the Tertiary Education Quality and Standards Agency (TEQSA) to identify and respond to emerging integrity risks within the sector
- established an independent review to evaluate the progress that universities have made in implementing the Model Code on freedom of speech and academic freedom
- improved processes within the ARC to identify and mitigate national security and other risks, including updating the ARC's Conflict of Interest and Confidentiality Policy to require disclosure of affiliations with a foreign sponsored talent program, foreign financial support for research activities and current associations with a foreign military, foreign government and foreign state-owned enterprise
- developed a cyber security workforce *Cyber Security National Workforce Growth Program* measure in *Australia's Cyber Security Strategy 2020*.

Further details on each initiative are provided below.

### 2.1. Guidelines to Counter Foreign Interference in the Australian University Sector

#### 2.1.1. Development

On 28 August 2019, the Hon Dan Tehan MP, Minister for Education, established the University Foreign Interference Taskforce (UFIT) as a collaborative effort between Government and the university sector, with the primary task to develop best practice guidelines for the university sector to implement better protections against foreign interference.

The development of the Guidelines in 2019 was led by a Steering Group and supported by four Working Groups.

The Steering Group continues to meet and as of September 2020 its membership comprises the following government agencies, represented at Deputy Secretary level: the Department of Home Affairs (with the National Counter Foreign Interference Coordinator as the Chair of the Steering Group); Department of Education, Skills and Employment; Department of Defence; Attorney-General's Department; and the Australian Security Intelligence Organisation. Sector representatives on the Steering Group comprise: Vice-Chancellors from the following universities - RMIT University (Deputy Chair of the Steering Group); La Trobe

University; University of Newcastle; University of Queensland; University of Newcastle; the Australian National University (which joined as a Steering Group member in September 2020); as well as the Chief Executive Officers from Universities Australia and the Group of Eight.

During the development of the Guidelines in 2019 the following Working Groups, each with equal government and sector representation, were established:

- Cyber security
- Research and intellectual property
- Foreign collaboration
- Culture and communication.

In addition to those on the Steering Group, the following government agencies participated in the Working Groups: the Department of Prime Minister and Cabinet; the Department of Foreign Affairs and Trade; the Australian Cyber Security Centre; and the Department of Industry, Science, Energy and Resources.

Additional universities from those on the Steering Group, participating in the Working Groups were: University of New South Wales; University of Wollongong; Queensland University of Technology; University of Technology Sydney; University of Melbourne; Monash University; Australian National University; University of Western Australia; Edith Cowan University; and Curtin University.

Development of the Guidelines also involved extensive consultations with the sector, including focus groups involving 36 institutions as well as 18 written submissions from the university sector.

### **2.1.2. Approach**

The Guidelines affirm the benefit Australia derives from universities' international collaboration. This collaboration is vital to Australia's world-leading research which leads to breakthrough innovations.

The Guidelines also recognise that universities are responsible for managing the foreign interference risks associated with their international collaboration. The Government and security agencies will support universities in this process.

The Guidelines identify a range of questions universities should consider as they implement policy and procedures to mitigate the risk of foreign interference—appropriate to each institution's circumstances. The Guidelines do not impose mandatory obligations.

The Guidelines comprise two sections:

- Key themes and objectives to assist universities manage and engage with foreign interference risk
- Best practice considerations to assist decision-makers, which will evolve over time.

They address five key themes to equip institutions to evaluate and improve their practices to mitigate foreign interference:

- Governance and risk frameworks
- Due diligence
- Communication and education
- Knowledge sharing
- Cyber security.

Questions to guide decision making are identified under each theme. These questions are not intended to be prescriptive. For example, an issue under due diligence is the need to 'know your partner' and a question is: 'What processes ensure staff are aware of foreign interference risks, even in informal collaboration and communication?'

### **2.1.3. Implementation**

On launching the Guidelines on 14 November 2019, Minister Tehan directed the University Foreign Interference Taskforce Steering Group to reconvene in mid-2020 to consider how universities were implementing the Guidelines. The Steering Group is chaired by the National Counter Foreign Interference Coordinator, with RMIT Vice Chancellor Martin Bean CBE the Deputy Chair.

The Steering Group met in June, September and December 2020 to continue to monitor implementation of the Guidelines and to consult on other issues affecting the sector's capacity to address national security risks. The Steering Group will continue to meet regularly.

Despite the disruption of COVID-19, the sector demonstrated its commitment to applying the Guidelines to bolster mitigation against foreign interference risks. Universities provided advice to Government in June and September setting out their action and progress in implementing the Guidelines. Universities indicated they have acted in a range of areas, including governance and leadership, policies and procedures, due diligence and disclosure, and cyber security. Examples of specific actions include:

- Implementing a global Information Technology (IT) security standard across all regions, including offshore campuses
- Adopting a globally-recognised industry cyber security framework to measure cyber security maturity, identify areas for improvement and compare to peer organisations
- Establishing and maintaining an online register for current and proposed international engagements at individual researcher level
- Requiring staff to complete annual online registration of disclosure, ensuring staff are aware of their obligations regarding secondary employment, sensitive research, possible foreign influence and conflict of interest
- Mandating online awareness training for staff and higher degree research candidates.

The UFIT Steering Group Terms of Reference have now been updated to focus on implementation of the Guidelines. Minister Tehan wrote to the UFIT Steering Group on 30 November 2020, supporting the ongoing role of the Steering Group and welcoming progress to date. Minister Tehan also set out a clear expectation that the Steering Group develop a forward work program to monitor and drive the implementation of the Guidelines in order to increase universities' capabilities to mitigate the risks of foreign interference.

## 2.2. Enhancing cyber security in Australian universities

Through the development and initial implementation of the Guidelines, universities identified cyber security as a key priority. On 28 June 2020, Minister Tehan announced \$1.6 million to enhance cyber security in Australian universities.

The *Australian Cyber Security Centre Annual Cyber Threat Report 2019-20* identified more than 120 cyber-attacks on universities and other education providers in the previous 12 months. It also warned of increasing malicious cyber activity against Australia's national and economic interests, including universities.

RMIT has been engaged to deliver the project on behalf of all universities over the next two years (to June 2022). The project will:

- establish a trusted forum to share information among key university and government representatives to drive open and frank conversation about risks, capacity to mitigate them; and
- develop threat analysis and modelling, intelligence sharing, gap analysis and technical solutions to build resilience to cyber breaches.

The project plan has been endorsed by the UFIT Steering Group. The Steering Group has reconvened the Cyber Security Working Group to provide expert advice to the project.

On 27 November 2020, RMIT hosted the first Trusted Cyber Security Forum via videoconference with participation by senior information technology officers from 34 public universities. Minister Tehan provided a message to the Forum in which he noted the cyber security breach at the ANU, revealed in 2019, was the immediate impetus for his decision to establish UFIT. The Forum will connect key representatives from the university sector to ensure the sharing of information to enhance universities' resilience and ability to deal with cyber security threats. For the life of the project, the Forum will convene quarterly.

## 2.3. Tertiary Education and Quality Standards Agency (TEQSA) Higher Education Integrity Unit

On 24 June 2020, Minister Tehan announced funding for a new Higher Education Integrity Unit within TEQSA. The Unit will enhance TEQSA's capacity to work with the higher education sector and government agencies to identify and analyse emerging risks and take pre-emptive action to assist the sector to address these threats.

Areas of focus for the Integrity Unit will develop and change as circumstances require but will likely include admission standards and information, academic and research governance



integrity, student safety, foreign interference, cyber security, fraud and corruption. Priorities for the Unit's activities will be established and regularly reviewed in collaboration with the sector, government and other stakeholders.

Education, guidance and support of higher education providers and their students will be the principal approaches adopted by the Unit, with the use of compliance investigations and enforcement action available if necessary. An early, major focus of the Unit will be to take action against commercial contract cheating providers and discharge TEQSA's responsibilities under the *Prohibiting Academic Cheating Services Act*, which was recently passed by Parliament.

The Higher Education Integrity Unit will not seek to duplicate or replace the activities of other government agencies. TEQSA will work collaboratively with government bodies that have primary responsibility for other integrity threats relevant to higher education, such as cyber security, foreign interference and research integrity. TEQSA will work in partnership with these agencies to support building institutions' capability to identify and manage ongoing and emerging integrity issues.

TEQSA's ongoing fields of activity, such as academic integrity, admissions standards and information, student safety, fraud and corruption, positions it well to understand the security risks faced by the higher education sector. With the additional information that the Integrity Unit will collect, TEQSA will be a valuable asset in advising Government on managing ongoing and emerging integrity issues, to feed into future policy development on higher education security issues.

## 2.4. Freedom of speech and academic freedom

Freedom of speech and academic freedom at Australian universities have attracted increased public attention over both domestic concerns as well as over undue foreign influence. The Government opposes any incident in which foreign influence impinges on the fundamental value of freedom of speech on Australia's campuses.

In 2018, Minister Tehan commissioned the Independent Review into Freedom of Speech in Australian Higher Education Providers, led by former Chief Justice of the High Court of Australia, the Hon Robert French AC.

The Model Code on freedom of speech and academic freedom recommended by the review sets out a framework for universities that protects freedom of speech and academic freedom as paramount values of Australian universities. All Australian universities have undertaken to adopt the Model Code in a way consistent with their individual legislative frameworks. The Government considers that adoption of the Model Code will support higher education providers to resist internal and external pressures that may diminish academic freedom and freedom of speech on campus.

On 7 August 2020, Minister Tehan announced an independent review to evaluate the progress that universities have made toward implementing the Model Code. Professor (Emeritus) Sally Walker AM, a lawyer and former Vice-Chancellor, conducted the review. Professor Walker's report, released 9 December 2020, found that 9 out of 40 Australian universities have fully implemented the code.



The Government is encouraging the sector to complete implementation of the Model Code as a priority. In addition, to protect free speech and academic freedom in Australian universities, on 28 October 2020 the Government introduced the Higher Education Support Amendment (Freedom of Speech) Bill 2020 to the House of Representatives. The Bill will amend the *Higher Education Support Act 2003* (HESA) to:

- replace the existing term ‘free intellectual inquiry’ in relevant provisions with the terms ‘freedom of speech’ and ‘academic freedom’, to align the language of those provisions with the Model Code; and
- provide a new definition of academic freedom that enshrines in law principles of freedom of expression that are an essential part of the life of our universities, for both academic staff and students.

The consistency of language to be achieved by measures in the bill will facilitate adoption of, and compliance with, the Model Code. It will also promote more consistent and transparent policies in relation to freedom of expression and academic freedom across Australia’s higher education sector.

## 2.5. Improving the national security assessment of Australian Research Council grants

ARC funding is awarded to Australian eligible organisations, which are mainly Australian universities. Funding is not awarded to individual researchers or research teams.

On 8 September 2020, the ARC released its revised Conflict of Interest and Confidentiality Policy available at <https://www.arc.gov.au/policies-strategies/policy/arc-conflict-interest-and-confidentiality-policy>.

For all future rounds of ARC grant schemes, additional information is being collected about foreign researchers and participating organisations for the purposes of ensuring integrity.

The additional information will support universities to undertake due diligence and assist with implementing the *Guidelines to Counter Foreign Interference in the Australian University Sector*.

The Department liaises with the ARC and other government agencies to ensure advice is provided on applications that may present a national security risk. This procedure maintains the primacy of the ARC’s assessment of academic excellence, while providing greater transparency around the potential national security risks, so that the Minister for Education is better informed when considering recommendations on research grant rounds.

## 2.6. Building cyber security workforce capacity

The Department has worked with the Department of Home Affairs and the Department of Industry, Science, Energy and Resources to strengthen the development of the cyber security workforce through the *Cyber Security National Workforce Growth Program* measure in the Government’s 2020 Cyber Security Strategy. This measure has three major components:

- Cyber Skills Partnerships Innovation Fund to commission projects through a competitive grants process (managed by the Department of Industry). Activities may include scholarships, apprenticeships, apprenticeship-style courses (both VET and higher education), other work-integrated learning, specialist courses for industry professionals, cyber skills for teachers and digital training platforms
- improved data collection on the state of cyber security skills base in Australia
- engagement activities managed by the Australian Signals Directorate (ASD) in partnerships with the Department of Industry, Science, Energy and Resources to encourage awareness of, and action on, cyber security.

Recent higher education reforms will also support cyber skills. Under the Job-ready Graduates, student fees in Information Technology courses will be reduced from the 2021 academic year. The Job-ready Graduates package of reforms to higher education received Royal Assent on 27 October 2020. Under the package, the Government will provide resources to higher education providers to invest in areas of national priority and improve Australia's cyber security capability.

IT has been identified as a national priority area of education by the Australian Government. Through their focus on national priorities, these additional CSPs will support upskilling and retraining in IT, boosting the Australia's cyber skills capacity.

The Department invited expressions of interest from higher education providers to deliver these courses in 2021. Successful providers will be informed of the results of their applications in early December 2020.

In addition, the new National Priorities and Industry Linkage Fund (NPILF) will set aside \$900 million over the next four years to better support university engagement with industry. The NPILF will have a strong focus on STEM jobs and increasing the number and quality of work integrated opportunities for students and will contribute to the development of cyber security course content and internship opportunities.

### **3. Regulation of the higher education and research sectors**

While the Australian Government provides significant funding for Australian universities, and other higher education providers, institutions are autonomous in their operations. The Australian Government does not intervene in their day to day operations or corporate policies and procedures.

Almost all public universities in Australia are established under state or territory legislation with governance arrangements, Council composition, reporting, audit and integrity requirements set by their respective state or territory parliaments in enabling legislation. Public universities are also subject to the scrutiny of relevant integrity bodies such as state and territory ombudsmen and anti-corruption bodies.

### 3.1. Higher Education Standards Framework (Threshold Standards) and TEQSA's role.

The *Tertiary Education Quality and Standards Agency Act 2011* (TEQSA Act) established TEQSA as Australia's single national quality assurance and regulatory agency for higher education. The core objective of the TEQSA Act is to apply a standards and risk-based quality framework to protecting and promoting the interests of higher education students and the quality of the higher education sector.

All higher education providers must be registered with TEQSA. To be registered, providers must demonstrate that they meet, and continue to meet, the requirements of the Higher Education Standards Framework (Threshold Standards) 2015.

The Threshold Standards outline the requirements and expectations of higher education providers regarding the delivery of higher education in or from Australia, including for governance and accountability. If TEQSA determines an institution is not complying with the Threshold Standards, it can impose conditions on a provider's registration that are publicly available on the National Register of Higher Education Providers. The Threshold Standards support the good governance of the higher education sector and management of risks, including those associated with foreign interference.

### 3.2. Australian Research Council

The ARC is part of the Education portfolio and reports to the Minister for Education, operating independently of the Department of Education, Skills and Employment. The ARC advises the Australian Government and, in particular, the Minister for Education on research matters, administers the National Competitive Grants Program (NCGP), and has responsibility for assessing research quality through the Excellence in Research for Australia (ERA). Through the NCGP, the ARC invests a significant component of Australia's investment in research and development, awarding funding based on a competitive peer review process to support excellent research and research training across all disciplines. The department regularly engages with the ARC on research matters and both agencies provide advice to the Minister for Education. There is no formal reporting from the ARC to the department except for coordinating input to Portfolio Budget reporting.

ARC funded projects have a high level of international engagement, with 77 per cent of projects which commenced in 2020 indicating an intention for international collaboration. The top five countries with the highest instances of international collaboration for projects across all ARC schemes that commenced in 2020 are the United States, United Kingdom, Germany, China and Canada (Table 1)<sup>1</sup>.

**Table 1: Instances of international collaboration for ARC projects commenced in 2020**

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<sup>1</sup> ARC website, <https://www.arc.gov.au/grants-and-funding/apply-funding/grants-dataset/trend-visualisation/ncgp-trends-international-collaboration>

Country	Instances of international collaboration commencing in 2020
United States	548
United Kingdom	358
Germany	191
China	155
Canada	131

### 3.2.1. International funding sources

Australian higher education providers can receive research income from non-government organisations, including private sector and not-for-profit organisations. These organisations can be either domestic or international. Higher education providers that receive RBGs are required to indicate the sources of their research income in the Higher Education Research Data Collection (HERDC) reporting.

The 2018 HERDC data demonstrates the value of international collaboration to the research sector, with 27 per cent of non-government research income sourced from international organisations.

The 2018 research income from non-government organisations was:

- Domestic: \$912 million
- International: \$336 million

International funding provides a substantial proportion of higher education research income, supporting the operation, staffing, and broader research endeavours of Australian universities.

### 3.2.2. Australia's research funding

Australian Government research funding schemes place value on the role of collaboration, including international collaboration, in advancing Australian research.

The Australian Government operates a 'dual funding system' for university research through its research councils and through direct funding to universities. The system is made up of:

- a) national competitive grants (predominantly through the Australian Research Council (ARC) and National and Health Medical Research Council (NHMRC) for particular research programs, projects or fellowships based on academic peer review<sup>2</sup>); and
- b) Research Block Grants (RBGs), allocated to eligible Australian higher education providers for:

<sup>2</sup> Further information on Australia's university research funding can be found at: [https://www.apf.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Library/pubs/rp/rp1819](https://www.apf.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp1819).

- the systemic costs of research, including the indirect costs of conducting competitive grant research;
- institutional research priorities; and
- research training.

In 2021, the Australian Government is providing \$2.99 billion to the 42 eligible providers as block grants through two programs: the Research Support Program and the Research Training Program.

Australia has two key funding bodies that administer competitive research grants:

- The first, the ARC, provides around \$800 million of funding each year for researchers through various competitive research grants programs<sup>3</sup>. The purpose of which is to grow knowledge and innovation for the benefit of the Australian community through funding the highest quality research, assessing the quality, engagement and impact of research and providing advice on research matters<sup>4</sup>.
- The second, the NHMRC, is the Australian Government's primary health and medical research funding agency. Part of the Health portfolio, the NHMRC provides around \$860 million of research funding annually<sup>5</sup>.

### 3.3. Australia's world-leading research

Australia's world-class research sector provides the responsive workforce and strong innovation system critical for maintaining a strong and globally competitive Australian economy. A strong research sector underpins the reputation of Australian universities, ensures strong performance in international university rankings, and attracts international students and researchers to Australia. It is this capability that has positioned Australia's research community to respond to the Covid-19 crisis.

According to the Department's 2019 data on higher degree by research (HDR) students there are total of 66,578 HDR enrolments in Australia. This is comprised of 58,707 Doctorate by Research and 7,871 Masters by Research students. Of the total enrolments, 42,365 (64 per cent) are domestic and 24,213 (36 per cent) are international students.

#### 3.3.1. Benefits of international collaboration

The Australian university sector and the broader Australian community benefit significantly from the presence of international students and collaboration with international researchers. International engagement contributes to the success and achievements enjoyed by the sector, which produces advanced research, cutting-edge technology, closer partnerships with a range of countries and truly insightful scholarship – which supports the competitiveness of Australian companies and the growth of the Australian economy.

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<sup>3</sup> Figures sourced from the SRI budget tables.

<sup>4</sup> Further information about the ARC and its programs is available at: <https://www.arc.gov.au/about-arc>

<sup>5</sup> Figures sourced from the SRI budget tables

Strong international partnerships also support Australia’s international student intake. In 2019, over one third of higher degree by research students were international, and Australia has a strong contingent of international post-doctoral and senior researchers.

Many of the challenges facing society over the coming decades will be global in nature and will require coordinated approaches of research communities that span national borders. The COVID-19 pandemic has demonstrated the importance of both the Government’s investment in research and the value of international collaboration. However, it has also led to significant impacts on the research sector.

Universities have identified financial pressures due to the loss of revenue from international students, and the COVID-19 restrictions have, in some cases, limited the conduct of research. Given the impact of COVID-19, ongoing international engagement which supports international students and researchers to live in and collaborate with Australia will be important in rebuilding and maintaining a strong Australian research system critical to Australia’s economic recovery.

### 3.3.2. Scope of international collaboration

Without international collaboration, Australia would have significantly fewer opportunities to contribute to research publications, limiting Australia’s research output and ability to participate in cutting-edge research that support a globally competitive economy. Data on Australian research outputs reinforces the scale and importance of international collaboration. Between 2017 and 2020, Australian researchers collaborated with approximately 221 countries around the world and produced approximately 240,382 co-authored publications (Table 2). Fewer international co-authored publications would negatively affect Australia’s strong research reputation and performance in university rankings that attract international students and researchers to Australia.

**Table 2: The number of co-authored publications by region in 2017–2020<sup>6</sup>**

Region	Collaborating countries (incl. territories)	Co- authored publications	Proportion of all Australian co- authored publications
Asia Pacific	52	111,191	32.6%
Europe	48	110,289	32.3%
North America	32	77,243	22.6%
Middle East	17	18,401	5.4%
South America	17	12,551	3.7%
Africa	54	11,879	3.5%

Australian researchers collaborate with researchers from a diverse range of countries. The top five countries with the highest number of co-authored publications with Australia are the United States, China, the United Kingdom, Germany and Canada. These countries

<sup>6</sup> SciVal, for the years 2017 to 2020, retrieved 24 November 2020. Co-authored publications may have more than one collaborating country. <https://www.scival.com/collaboration/currentCollabTable?uri=Country/36>



account for around 43.1 per cent of all Australian co-authored publications (Table 3), contributing also to the costs associated with undertaking research.

**Table 3: The number of co-authored publications by countries in 2017–2020<sup>7</sup>**

Country	Co-authored publications	Proportion of all Australian co-authored publications
United States	65,184	13.0%
China	55,961	11.2%
United Kingdom	49,020	9.8%
Germany	23,950	4.8%
Canada	21,249	4.3%

### 3.3.3. Research infrastructure

Australian research is supported by both international researchers using our national research infrastructure and reciprocal arrangements which enable Australian researchers to access international research infrastructure.

Australia has a world-class network of research infrastructure projects supported by the Government’s National Collaborative Research Infrastructure Strategy (NCRIS). Australia’s leading-edge research infrastructure generates a virtuous circle: the best researchers choosing to work and live in Australia producing higher ranked and more cited research papers underpins Australia’s strong performance in international university rankings and attracts international students.

Many research infrastructure projects also have complementary access arrangements with international research infrastructure projects, enhancing Australia’s research reputation internationally. For example, the reciprocal arrangements NCRIS projects have with international facilities provide Australian researchers with access to facilities that would be prohibitively expensive for Australia or Australian universities alone to develop what would not be otherwise available to them. Access to this international infrastructure is vital to drive Australian innovation and for Australia to maintain a globally competitive research system.

### 3.3.4. Case studies

Collaborative projects between individual Australian researchers and their international counterparts demonstrate the value of international engagement to Australian research. For example, the University of Adelaide is participating in international research to improve wheat yields in collaboration with other researchers in Australia and the USA. This research is using genes from other cereal species and evaluating their value in wheat, resulting in modified wheat lines which produce up to 30 per cent more grain.

Another example of the benefits of international research collaboration is the cooperation agreement made between the Australian Nuclear Science and Technology Organisation (ANSTO), a national research organisation representing the Australian nuclear fusion

<sup>7</sup> SciVal, for the years 2017 to 2020, retrieved 24 November 2020. Co-authored publications may have more than one collaborating country. <https://www.scival.com/collaboration/currentCollabTable?uri=Country/36>

community and the International Thermonuclear Experimental Reactor (ITER), a large-scale nuclear fusion project based in France. This cooperation agreement enables Australian researchers to participate in research collaborations at ITER.

Australia is also an associate member of the European Molecular Biology Laboratory (EMBL), Europe's leading life sciences laboratory. EMBL Australia (funded under NCRIS) was created to maximise the benefits of Australia's associate membership of EMBL, and does so via research projects, infrastructure and training programs across Australia, embedding powerful new enabling tools, such as bioinformatics and systems biology, in Australian life sciences.

The Square Kilometre Array (SKA) demonstrates how global research collaboration allows Australia to participate in cutting-edge research that would not be possible for a single country to finance. Organisations from 14 countries are members of the SKA Organisation—Australia, Canada, China, France, Germany, India, Italy, New Zealand, Spain, South Africa, Sweden, Switzerland, The Netherlands and the United Kingdom. Co-hosted in Western Australia's Murchison Shire, the SKA will conduct transformational science, breaking new ground in astronomical observations. Its unique configuration will give the SKA unrivalled scope in observations, largely exceeding the image resolution quality of the Hubble Space Telescope. It will also have the ability to image huge areas of sky in parallel, a feat that no survey telescope has ever achieved on this scale with this level of sensitivity.

#### 4. Inquiry into national security risks affecting the Australian higher education and research sector – Terms of Reference

The Parliamentary Joint Committee on Intelligence and Security (the Committee) will inquire into and report on national security risks affecting the Australian higher education and research sector (the Sector), having regard to all institutions within the sector, including those engaged in:

- Tertiary teaching;
- Research;
- The commercialisation of research with origins in the sector;
- Grants and funding decisions in relation to the above activities;
- Tertiary education-related representative bodies, coordination bodies or institutional groupings; and
- Regulation of the above activities.

In considering national security risks to the Sector, the Committee specifically seeks information on:

- A. The prevalence, characteristics and significance of foreign interference, undisclosed foreign influence, data theft and espionage, and associated risks to Australia's national security;
- B. The Sector's awareness of foreign interference, undisclosed foreign influence, data theft and espionage, and its capacity to identify and respond to these threats;
- C. The adequacy and effectiveness of Australian Government policies and programs in identifying and responding to foreign interference, undisclosed foreign influence, data theft and espionage in the Sector;
- D. Responses to this issue in other countries and their relevance to the Australian situation; and
- E. Any other related matter.