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## **The Australian Academy of Science and the Australian Academy of Technological Sciences and Engineering joint submission to the Defence Trade Controls Amendment Bill 2023 exposure draft**

The Australian Academy of Science (AAS) and the Australian Academy of Technological Sciences and Engineering (ATSE) welcome the opportunity to provide a submission on the exposure draft of the Defence Trade Controls Amendment Bill 2023 (the Bill).

The AAS and ATSE highlight the insufficient consultation timeframe for detailed analysis from the research sector on the potential impacts of the proposed Bill.

When enacted, the Bill will be accompanied by regulations. It is our strong view that the intent of this Bill could be subverted by changes to the regulations after enactment, which can occur without consultation or scrutiny, for example criminalising some activities that the research community considers normal, indeed desirable, for a researcher to develop their ideas and outcomes.

Accordingly, we propose that the draft Bill be amended.

- It is essential to include an exemption for ‘fundamental research’, noting that the final definition needs to be tailored to Australia’s context and could align with the US definition in the National Security Decision Directive 189 (NDD-189):

*“Fundamental research is defined to mean basic and applied research in science and engineering where the resulting information is ordinarily published and shared broadly within the scientific community, as distinguished from research the results of which are restricted for proprietary reasons or specific U.S. Government access and dissemination controls.”*

We recommend that:

- Defence undertakes further engagement and co-design with the science, technology, engineering and mathematics (STEM) sector, including Learned Academies and researchers, to improve awareness, understanding, implementation, and compliance with the legislation, to mitigate potential unintended consequences on research and development.
- Educational resources, training and easy-to-use decision guides must be developed so that researchers can determine if their work is captured by the legislation and Defence and Strategic Goods List (DSGL) and if they need to apply for a permit. These resources must be co-designed with the research sector and be made available before the legislation comes into effect. They will be a vital tool to avoid self-censorship by the research sector, which can lead to missed opportunities and benefits for Australia.
- Impact monitoring on research is embedded in reviews of the legislation to capture and address unintended consequences.
- Evidence-based policy-measures respond proportionally and meaningfully to threats and/or risks.
- Exemptions are included to avoid adverse impacts on the composition of the research workforce and Australia’s research collaborations. The proposed legislation risks sending signals that discourage the hiring of international experts, enrolling of international students in Australian institutions, or initiation or continuation of international research collaborations outside of the US and UK. It could also deter foreign persons from coming to Australia to work or collaborate. Australia welcomes and relies on foreign students and researchers who make up a significant proportion of the Australian

research workforce and who will be needed in greater, not fewer, numbers in the future to meet national needs.

Governments have a responsibility to consider the effect of legislation on research and its culture and to measure the impact of security measures on the research and development system. As the changing geopolitical environment presents risks to the quality research and development Australia relies on, as well as its applications (both civilian and defence), the national security network and the research community must work together to forge an open dialogue regarding future legislative and policy developments.

Our joint recommendations are explained in further detail in the appendix below.

The Academies can convene Australia's leading scientists and thinkers in fundamental and applied science, technology and engineering to provide further input on the impacts of changes to Australia's defence export controls framework on research and development and the support needed for STEM researchers to understand obligations.

To discuss or clarify any aspect of this submission or to arrange further consultations with the Academies and their Fellowships, please contact Chris Anderson, Director Science Policy (AAS) [chris.anderson@science.org.au](mailto:chris.anderson@science.org.au) or Peter Derbyshire, Director of Policy and Government Relations (ATSE) [peter.derbyshire@atse.org.au](mailto:peter.derbyshire@atse.org.au).

## Appendix 1 - Concerns regarding the Defence Trade Controls Amendment Bill 2023 and potential unintended consequences on STEM research

Expanding the scope of the *Defence Trade Controls Act 2012* (the Act) is contestable, with attempts to encompass a greater scope of university research having been previously rejected on two occasions due to the unacceptable impact it would have on academic freedom and intellectual inquiry. There is a concern that the Bill does not balance national security and national interest derived from Australia's research enterprise. It is critical that the research community is genuinely engaged to mitigate adverse unintentional impacts of the Bill.

International research collaboration is in Australia's national interest and is essential to our STEM research and industry sectors. Geopolitical trends, the dynamic threat environment and changes in regulatory frameworks have a significant impact on the science system. This requires a whole of government conversation—imposing science policy settings with a narrow national security lens creates risks for the conduct of and potential for Australian science and research.

Establishing a licence-free export environment with the US and UK will bring benefits to many researchers and companies currently captured by the Act. However, the expansion of DSGL offences—particularly 10B (re-export) and 10C (DSGL services)—will create a level of uncertainty and doubt about how changes to Australia's defence trade controls framework to align with the US environment will impact Australia's research collaborations with countries outside of the trilateral AUKUS agreement.

Australia on its own is not globally competitive in many of the areas on the Defence and Strategic Goods List (DSGL) (e.g. advanced materials, electronics, sensors, photonics, lasers, navigation, and aerospace), and relies on partnerships to gain access to knowledge, technology and capability. That means that intentionally or unintentionally limiting collaboration with key partners and individuals would result in insufficient home-grown know-how for us to benefit from the quantum of expertise we need; Australia's sovereign capability in advanced technology areas would be at risk.

### Ensuring clarity in the legislation

The legislation should be amended to allow for an exemption for fundamental research, the definition of which should be co-designed with the research sector and align with the US definition (NSDD-189):

*“Fundamental research is defined to mean basic and applied research in science and engineering where the resulting information is ordinarily published and shared broadly within the scientific community, as distinguished from research the results of which are restricted for proprietary reasons or specific U.S. Government access and dissemination controls.”*

Clarity and guidance need to be provided on the following terms to improve understanding of when permits may be required for STEM research and development activities:

- ‘Fundamental research’ - in Australia’s current definition, there is significant ambiguity around the boundaries of ‘basic science’ and ‘applied science’. A workable definition needs to be co-designed with the research sector.
- What constitutes an ‘export’ and ‘deemed export’ from a research perspective, that is, at what point does a researcher speaking about their research with a foreign person become an export/transfer that requires a permit? How far would penalties for ‘re-export’ extend, and who do they apply to?
- ‘Foreign person’ - will all international student researchers within Australia (Higher Degree by Research as well as coursework students undertaking research subjects) working on DSGL technologies be regarded as a ‘foreign person’ and required to obtain permits under 10A? How will foreign nationals with permanent residency be treated? If an enrolled student is not granted a permit, or does not receive their permit on time, how will their visa status be affected?

The DSGL also must be reviewed for definitions that are too broad. This presents additional risks of researchers self-censoring or risk-averse universities restricting research where security obligations are unclear.

### The Defence and Strategic Goods List and unintended impacts of the legislation

The DSGL underpins how the *Defence Trade Controls Act 2012* is applied and which activities may require a permit. There is uncertainty around how emerging and critical technologies and the broad AUKUS Pillar 2 advanced technologies and capabilities may be captured in the DSGL.

While exemptions have been foreshadowed, which we understand will include exemptions for countries that are part of relevant multilateral export controls agreements, and exemptions for fundamental research and publicly released research will apply, the Academies are concerned that the impacts on research may be further-reaching than is envisaged in the draft Explanatory Memorandum.

Potential unintended consequences could include:

- Incentivising risk-averse behaviour by universities and academics, resulting in a biased research agenda and missed opportunities for international research commercialisation and collaborative research with industry.
- Disincentivising recruitment and retention of international talent, which is crucial for meeting Australia’s research workforce needs.
- Restricting the ability of innovative small and medium enterprises (SMEs) to hire or engage with foreign collaborators.

### Fostering a “security-aware” culture and exercising due diligence

The Academies acknowledge the shared responsibility of government and research institutions/researchers to be aware of risks and to exercise due diligence and ethics when working with international collaborators.

Based on conversations with our Fellowships and other researchers, there appears to be a mismatch in the level of awareness among the research community of the risks and potential dual-use applications of their research and the expectations of the Government regarding research institutions’ and researchers’ ability to identify and understand these risks.

As outlined in the Australian Academy of Science’s [submission](#) to the *Defence Trade Controls Act 2012* independent review, fostering a more security-aware culture should be a priority for Government and the research sector.

Guidance materials and structures that support compliance with the Act by all student and staff levels should be provided. Material should seek to build awareness and provide training on national security issues and obligations under the Act. This would empower researchers to recognise potential risks, identify technologies that are potentially dual-use and understand supply chains, contributing to culture and behaviours that support national security.

Researchers have raised concerns about how their research will be constrained and bureaucratised due to this Bill. There is a gap between the intent and the execution of the Bill that may have a chilling effect on research culture.

Researchers have raised concerns with the Academies that researchers in Australia and abroad may be starting to 'self-censor' - electing not to undertake certain collaborations or communication as it is too complex or onerous to assess if they may fall foul of the new measures and offences. If this bureaucratic burden is on researchers, research institutions and industry to navigate without additional support and resources, this Bill may have serious impacts on Australian research and development.

Information and resources need to reach all researchers, including those who are precariously employed in university research and those engaged in innovative SMEs. Education initiatives should be paired with clear explanatory resources such as decision trees to enable researchers, research institutions and businesses to assess if and how these new laws apply to their research and how they can obtain and update permits if required. Defence should be transparent and clear about likely permit application processing times and seek to achieve targets to contain processing times to less than 30 days in 90% of cases.

We encourage Defence to continue engaging the Learned Academies to directly reach the research sector so as to complement other consultative mechanisms, such as the University Foreign Interference Taskforce, in further discussions on this and other related legislation, as well as a graduated implementation.

### Monitoring impacts on the sector

The Academies welcome the commitment to a three-year review of the legislation, followed by a five-year review cycle. To ensure the legislation is not having adverse unintended consequences (including through self-censorship), these reviews must provide sufficient time for genuine reflection and assessment, and monitor changes in the volume of international collaborations with different partner countries, including publications and conference presentations. Changes to the composition of the research workforce and in the number of innovative SMEs should also be monitored.

### Potential changes to research architecture

A key difference in the Australian and the US research environment is the federally-funded research and development centres (FFRDCs) and the university-affiliated research centres (UARCs) that are established and funded to meet long-term engineering, research, development and analytic needs that cannot otherwise be effectively captured by government or private sector resources. This architecture establishes a 'middle space' between defence and open university research.

Changes to Australia's security environment and measures that enable engagement with AUKUS Pillar 2 advanced technologies and capabilities could necessitate major structural changes to the conduct of research and development in Australia.

If such structural change is required to address national security concerns, the Australian Government will need to consider the resource implications of implementing such changes. It should not and cannot be the responsibility of universities and research institutes to fund the creation of secure or restricted research and development environments.