



Federation University submission to the Parliamentary Joint Committee on Intelligence and Security (PJCIS) into National Security Risks affecting the Australian higher education and research sector

As Victoria's premier regional dual-sector University, with campuses in Ballarat, Gippsland, Horsham, Berwick and in Brisbane, Federation University is committed to strengthening the prosperity of the communities we serve by delivering quality skills, training and education, and contributing to industry development through innovative, applied research.

Federation urges that university agreements be exempted from this inquiry, or that very specific and clear criteria be developed to ensure Australia's global research and engagement capacity is not compromised.

We argue that there is a **need for further consultation with the university sector** on the purpose and detail of the proposed inquiry. In its current form the inquiry could damage the nation's research output and impose significant regulatory burden on both the Commonwealth Government and the sector.

World-class research is underpinned by global engagement

While Australia punches above its weight in terms of the volume and quality of research, it accounts for only 3 per cent of research outputs and a tiny fraction of the best research in the world.

On the basis that research is the progenitor of new knowledge, products and services then free exchange of knowledge and education through productive partnerships with overseas Universities and industries is critical for Australian Universities to deliver their mission to the country.

This is particularly true of regional Universities, like Federation, which often work in partnership with LGAs, regional development agencies, national and global partners to support economies in transition, boost economic development and grow jobs.

The inquiry will impose constraints Federation's ability to engage with international partners in order to support industry development. There are many ways our researchers and students interact with overseas institutions and colleagues, and it is unclear how the inquiry will impact on the ability to forge and maintain these critical connections.

If every interaction will require formal approval from the Minister for Foreign Affairs, or at least is subject to disallowance, this is highly likely to limit the ability of our academics, researchers and students to effectively engage.

Federation University is committed to supporting industry development in the communities in which we operate – and a critical input to this is the capacity to undertake meaningful engagement with key partners, locally, nationally and globally.

The University has around 150 agreements with international partners including universities in Europe, the UK, USA and South East Asia; philanthropic organisations such as the Melinda Gates Foundation; and industry partners in a range of sectors including energy, health and aviation, that span Japan, Europe, Canada and the US. Our partnerships are strongly aligned with the Commonwealth Government's stated intent that it 'welcomes engagement... which can deliver significant benefits including encouraging investment, building capacity in developing sectors and strengthening international cooperation'.

Scope and examples of our engagement with international partners

A clear example of this intent is demonstrated through our partnership with Japanese entity J-Power, outlined below.

Our partnership with Japanese entity J-Power Latrobe Valley

Federation's Carbon Technology Research team in collaboration with Australian Carbon Innovation (ACI) has received \$1.5 million funding from J-Power Latrobe Valley, to analyse the quality and performance of its pilot hydrogen plant, with the aim of determining the scalability of hydrogen production as an energy source. This work is part of the \$500M jointly funded Commonwealth, Victorian Government and Japanese Industry funded Hydrogen Energy Supply Chain project currently underway in Gippsland.

The Federation University and ACI researchers will assess hydrogen samples, by-product composition, production efficiency and energy usage, provide analysis of results to inform testing conditions and decision-making and develop an understanding of hydrogen production from brown coal. This world-first pilot project will produce and transport clean hydrogen from Victoria's Latrobe Valley to Japan and support the building of a local workforce capacity for ongoing gasification research and development. In the longer term, the research will lead to employment in the region and economic benefit for the nation.

Prevalence of Foreign Interference

Australia has a highly successful research economy, generating ~3% of new knowledge world-wide based on an investment of <1% GPD. In contrast, other world players such as the USA and China together generate ~48% of new knowledge. On this basis Australia is a net importer on new knowledge and has everything to gain from international collaboration and exchange.

Non-the-less, Australia has significant areas of world leading technology development including mining technologies and automated processes in mining and civil engineering. It also has the potential to become a leader in hydrogen energy production and export. Thus, there are areas in which Australia needs to be cognisant of the value of its intellectual property and therefore safeguard its ability to protect and exploit that property. Having said this most of the examples above rely on natural assets, geography, dispersed populations and climatic conditions.

Difficult to replicate even with the potential for foreign interference. COVID-19 have brought vulnerable supply chains (e.g. pharmaceuticals) and new Australian medical technologies, including cutting edge technologies in the production of vaccines and advanced manufacturing in the development of medical devices. Attention should be paid to protection in these areas.

Sectorial awareness

Through significant and widely publicised events, the HEI sector is aware of the potential of foreign interference, particularly through cyber threats. The sector is actively collaborating internally and with government to address these threats through self-regulation and sharing of best practice and scale able models (UFIT). This appears to be the most cost-effective approach given the caveats identified above.

Adequacy of Government approaches

Consultation between responsible government agencies and Universities have been reasonable with a perception within HEI that government officers have listened to sectoral concerns. However, it is still not clear whether the government will support and encourage self-regulation and responsible stewardship of University IP arising from public and private funding or will impose restrictions via DFAT or another agencies.

Tertiary peak body representation

Federation University Australia is a member of the Regional University Network (RUN) and Universities Australia (UA – the national peak body). UA is pro-actively engaged in sharing best practice to avoid and mitigate against foreign interference (through UFIT), whilst the RUN group has a number of forums for scaling UA recommended responses to the threats posed to regional Universities, which have very different missions compared to, for example, Go8 or ATN group Universities. The University is therefore confident in its ability to promote awareness of and disseminate best practice in Cybersecurity, personal accountability and IP protection aligned to the capabilities of the organisation. The scale of our response and our perception of top down control measured are detailed below.

Federation has implemented best practise cyber security measures

Federation has implemented a 'defense-in-depth' strategy to ensure confidentiality, availability and integrity of ICT services, which include flexible, cyber safe practices that have been strengthened in 2020 to meet the rapid increase in online activities for teaching, research and professional services. Our strategy minimises risk and is informed by best practice across the sector in countering potential foreign interference.

The 'defense-in-depth' strategy ensures that our technologies are utilised to secure network, infrastructure, systems and services; ensuring that if one security mechanism misses an event, then it can be detected by the next layer of security mechanism. This forms the basis of the cyber security strategy in Federation. The strategy is underpinned by three key strands:

- **Perimeter protection:** perimeter firewalls for malware and malicious content detection; state-of-the-art email security to protect against malicious/scam emails; and participation in best practise information sharing across the sector for quick identification and response to known threats.
- **Internal protection:** measures inside the University network include advanced threat protection, multi factor authentication, regular vulnerability assessments; bit locker drive and database encryption; network segmentation to prevent unauthorised access; and access controls to ensure confidentiality and privacy is maintained.
- **Monitoring and alerting:** implementation of log analysis tools to monitor, alert and report activities inside and outside the University network to identify and respond to events in a timely manner.

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