

Discussion
paper
response
Submission
No 35a

INQUIRY INTO DEFENCE INDUSTRY IN NEW SOUTH WALES

Organisation: University of Newcastle

Date received: 11 April 2018

**DEFENCE INDUSTRY IN
NEW SOUTH WALES
DISCUSSION PAPER**

**NSW LEGISLATIVE COUNCIL
STANDING COMMITTEE ON STATE DEVELOPMENT**

**SUBMISSION FROM THE
UNIVERSITY OF NEWCASTLE**

Submission Contact:

Professor Kevin Hall

Senior Deputy Vice-Chancellor, Research and Innovation

kevin.hall@newcastle.edu.au

(02) 4921 6332

Introduction

The University of Newcastle (UON) welcomes the opportunity to provide a submission to the New South Wales (NSW) Legislative Council, Standing Committee on State Development as part of the Inquiry into the Defence Industry in NSW and with reference to the Discussion Paper, dated November 2017.

Submission:

Chapter 1: The defence industry in New South Wales

Question 1

What additional measures, if any, should the NSW Government implement to improve coordination across government agencies, to support the delivery of the *New South Wales: Strong Smart and Connected, The NSW Government Defence and Industry Strategy*?

The University of Newcastle is supportive of the *New South Wales: Strong, Smart and Connected, The NSW Government Defence and Industry Strategy* and suggests that the NSW Government further increase the financial investment in the sector to ensure the strategies and initiatives are achieved.

In addition, the NSW Government should ensure that effective communication and marketing strategies are put in place to ensure that all parties (community, Defence and Defence industry, primes and medium enterprise, and universities) are aware of the NSW Government's vision and are able to fully engage in initiatives.

Question 2

Should the NSW Government establish a whole of government Ministerial Council to provide effective governance of the *New South Wales: Strong Smart and Connected, The NSW Government Defence and Industry Strategy* implementation? If so, what form should this body take, and who should it be comprised of?

The University of Newcastle endorses the establishment of a Ministerial Council to provide effective governance to the *New South Wales: Strong Smart and Connected, The NSW Government Defence and Industry Strategy* implementation and suggests this body be considered with regards to:

- an emphasis on objectives shared across organisational boundaries
- encompass the design and delivery of a wide variety of policies, programs and services that cross organisational and portfolio boundaries
- oversee investment targets, programs and projects.

As noted within the *Defence Industry in New South Wales: Discussion Paper* the University of Newcastle supports the suggestion the Ministerial Council comprise of a broad range of experts including representatives from Defence, industry, scientific and community sectors. The inclusion of the academic / research and innovation sector is strongly recommended.

Chapter 2: Supporting defence industry growth

Question 3

What more can the NSW Government do to ensure that its commitment to Defence and the defence industry is clear to stakeholders?

The University of Newcastle acknowledges the NSW Government's support to Defence and the defence industry and is supportive of the following initiatives:

- release of the NSW Government *NSW South Wales: Strong Smart and Connected, The NSW Government Defence and Industry Strategy*
- formation of Defence NSW
- establishment of the NSW Defence Innovation¹ and Cyber Security Networks²
- creation of the NUW Alliance³
- appointment of a Defence Advocate for NSW, Air Marshal (Retired) John Harvey and collaboration amongst the Defence Advocates from other States and Territories Governments

Effective communication and marketing strategies are essential to ensure that all parties (community, Defence and Defence industry, primes and medium enterprise, and universities) are aware of the NSW Government's vision and are able to fully engage in initiatives.

Question 4, a)

What are the potential benefits of an aerospace precinct at the Western Sydney Airport and how can the NSW Government support this initiative?

The University of Newcastle recognises the potential benefits of the Western Sydney Aerospace and Defence Industries Precinct (Precinct) as:

- the attraction of small, medium and large aerospace and defence businesses to NSW
- linkage to global supply chains and access to new export partners and markets
- skill development, education and training that meet industry demand
- to establish connections between prime contractors, original equipment manufacturers and small to medium enterprises
- direct channels for local businesses to bring products to market
- greater competitiveness of NSW aerospace and defence businesses.

The New South Wales: Strong Smart and Connected, The NSW Government Defence and Industry Strategy, notes that a like Precinct is located at the Williamstown Aerospace Centre, Williamstown, NSW, 2318.

The University of Newcastle is committed to growing the regional economy of Newcastle, the Hunter and the Central Coast as part of our NeW Futures 2016 – 2025 strategic plan. Increased collaboration with local, national and international Industry on identified areas of growth and national priority is a key part of our overall strategy. The University is working to further its connections and is engaging with stakeholders to develop new strategies to boost participation with Business, Government and Industry. A key strategy is the establishment of the Defence Security Aerospace – 18 Hub (DSA-18 Hub) located at the Williamstown Aerospace Centre.

In November 2017, the University opened the doors to DSA-18 Hub, a new collaborative, purpose-built, space dedicated to Defence, Security and Aerospace engagement. DSA-18 Hub is adjacent to the Williamstown Royal Australian Air Force (RAAF) base and several Defence Primes and small to medium enterprise, and is a result of extensive consultation with industry and UON's research base. Both groups expressed a strong desire to collaborate more closely through provision of a shared physical space, leveraging this to enhance current and future collaboration on research and development and education aligned to Defence and industry opportunities.

Question 4, b)

What further steps can the NSW Government take to support New South Wales's strengths in critical defence capability areas?

The University of Newcastle recognises the vision of the NSW Government within *New South Wales: Strong Smart and Connected, The NSW Government Defence and Industry Strategy* to leverage NSW's strengths in critical capability areas to grow existing work and create new Defence and defence industry activity.

The NSW Government could provide incentives to encourage collaborative projects across academia and industry, in areas of defence capability priority.

Question 5

What steps can the NSW Government take to support the enhancement of Australian sovereign defence capability?

The University of Newcastle recognises the Australian Defence industry is at the fore of the Government's vision and agenda for jobs and growth in the Australian economy. The University of Newcastle makes no recommendations regarding steps the NSW Government take to support the enhancement of Australian sovereign defence capability.

Question 6

What further steps can the NSW Government and the defence industry take to optimise its chance of success in securing Future Submarine basing and accompanying sustainment work on the east coast of NSW?

The NSW Government could build on existing and develop new capability, capacity and infrastructure to optimise its chance of success in securing future submarine basing and accompanying sustainment work on the east coast of NSW. The NSW Government/Thales Australia proposal to revitalise marine sustainment capability at the Port of Newcastle exemplifies the opportunity to be pro-active in ensuring critical infrastructure is available.

Question 7, a)

What steps can the NSW Government take to increase understanding of New South Wales defence industry capability with potential for export?

The University of Newcastle supports the *Department of Defence's Defence Export Strategy* which addresses how the Department of Defence will work with the State and Territory Governments and industry to better coordinate export support and programs, including participation in trade shows and overseas engagement.

The University of Newcastle welcomes the opportunity to participate in trade shows and engagements to showcase areas of research strength and innovation.

Question 7, b)

What steps can the NSW Government take to enable New South Wales based defence industry to take full advantage of the supports provided by the Australian Government in this area?

The NSW Government could implement measures to ensure strong communication channels between NSW government, defence industries and universities to ensure awareness of the supports provided by the Australian Government in this area, and proactive planning to enable rapid uptake of opportunities.

Question 7, c)

Should New South Wales seek to identify a state based export target to improve performance in this area? If so, what factors should the NSW Government take into consideration in determining this target?

The University of Newcastle is not convinced that the establishment of a state based export target would drive performance. A more effective approach would be clear identification and wide communication of the NSW government priorities and of the support that is available to all parties. Clarity on preferred modes of engagement and types of support would be valuable.

Question 7, d)

How best can the NSW Government support and lead a collaborative 'Team Defence Australia' based culture to maximise the economic benefits for all states and territories from Defence expenditure?

Supporting and leading a collaborative 'Team Defence Australia' based culture requires effective communication and targeted support to build strong collaboration.

Question 8, a)

What steps can the NSW Government take to better understand defence industry capabilities in New South Wales?

The University of Newcastle recommends in order to better understand defence industry capabilities in NSW a review be performed with a call for information about NSW capabilities from:

- small, medium and large Defence and defence industry providers
- secondary education providers
- research, higher and vocational education institutions / providers
- Government departments.

Note: this question links to question 8c.

Question 8, b)

What role should Defence NSW have in building connections between local industry and primes?

The University of Newcastle is supportive of Defence NSW and their efforts to build connections between local industry and primes by co-ordinating:

- relationships between the NSW Government, the Commonwealth, state Governments, Defence and industry
- the implementation of a strategy with a whole-of-government approach
- defence industry development activities across metropolitan and regional NSW.

Endeavours undertaken by Defence NSW to represent NSW business on a local, national and international basis is encouraged, for example: Defence and Security Equipment International (DSEI) 2017, PACIFIC and Landforces conferences.

The University of Newcastle recommends a regional roadshow is undertaken by Defence NSW to:

- raise awareness of Defence NSW
- widely communicate the key priorities
- increase Defence NSW knowledge of local industry and primes
- engage on how best to build connections, collaboration and communication.

Question 8, c)

Is the development of a Defence Capability Directory, such as that developed in the ACT, a useful model for the NSW Government to consider and adopt?

The University of Newcastle supports the development of a Defence Capability Directory for NSW and recommend the directory inform detail on:

- small, medium and large Defence and defence industry providers
- secondary education providers
- research, higher and vocational education institutions / providers
- Government departments.

Question 9

Are there any additional steps that the NSW Government and ACT Government can take to enhance collaborative working arrangements for the benefit of defence industry?

The University of Newcastle encourages the NSW Government and ACT Government to develop effective communication channels between the state and territory governments, and with the defence industry, universities and other research agencies, to identify synergies and opportunities to enhance collaborative working arrangements for the benefit of defence industry.

Question 10, a)

What actions are currently being implemented by the NSW Government and other educational providers to promote STEM skills in primary, secondary, and tertiary education institutions?

The University of Newcastle is supportive of current national and NSW Government policies and endeavour aimed at promoting STEM school, secondary and tertiary education institutions.

The University of Newcastle's NeW Futures Strategic Plan (2016-2025) highlights the institution's 2025 vision which includes the further development and focus for the University in the areas of STEMM and CABLE. As such the University is preparing to align Faculties as per the following Precincts:

- Science, Technology, Engineering, Maths + Medicine (STEMM)
- Creative Arts, Business, Law and Education (CABLE)

Capital investment decisions will reflect and support the University's strategy, to deliver contemporary physical assets that allow UON to produce outstanding education, research and innovation outcomes in relation to STEMM and CABLE and the proposed Precincts will

accommodate high performance education, research, industry engagement and collaboration across all fields of STEMM and CABLE academic endeavour.

To support the University's STEMM vision is the development of a new Bioresources Facility which has been identified as a key requirement to support the University's current biomedical research activities and to cater for future capability in response to emerging trends in biomedical research. As a foundational research Facility supporting research across all STEMM fields, the Facility will integrate within the new STEMM Precinct.

Question 10, b)

What further steps can the NSW Government take to promote STEM subjects and associated defence industry careers? Should the NSW Government launch an advertising campaign to promote the study of STEM subjects as well as promote New South Wales as a technology leader?

The University of Newcastle is supportive of the suggestion to launch an advertising campaign to promote the study of STEM subjects and to promote NSW as a technology leader.

The University anticipates further advertisement would complement the Defence Industry information campaign, titled 'the workforce behind the Defence Force' which promotes the government's \$200 billion investment to build defence capability, national industrial capacity and to highlight the many jobs and business opportunities for Australians in the defence industry sector.

Question 10, c)

Should the NSW Government take steps to embed defence-related industry interaction, within the education syllabus?

The University of Newcastle supports the NSW Government to take steps to embed defence-related industry interactions within tertiary education institutions and acknowledges the National STEM School Education Strategy 2016-2025², key of which for defence-related industry interaction is to 'establish STEM Partnership Forums to facilitate partnerships between schools, industry and the tertiary education sector'.

The University is committed to growing the regional economy of Newcastle, the Hunter and the Central Coast as part of our NeW Futures 2016 – 2025 strategic plan. Increased collaboration with local, national and international Industry on identified areas of growth and national priority is a key part of our overall strategy. The University is working to further its connections and is engaging with stakeholders to develop new strategies to boost participation with Business, Government and Industry as previously informed within the University's submission to the New South Wales Legislative Council, Standing Committee on State Development as part of the Inquiry into the Defence Industry in NSW.

Question 11, a)

What steps can the NSW Government take to close gender gaps in the participation of females in STEM career pathways as relevant to the defence industry?

The University of Newcastle recognises the vision of the NSW Government within *New South Wales: Strong Smart and Connected*, *The NSW Government Defence and Industry Strategy* to leverage NSW's strengths in critical capability areas to grow existing work and create new Defence and defence industry activity.

The NSW Government could provide incentives to encourage gender equity and enhance gender representation. This could be pursued in areas of defence capability priority. Networking events for female STEM professionals could be developed. This could have the effect of encouraging interest from women into defence industries .

Question 11, b)

What barriers exist for females seeking to undertake STEM education and access defence industries? What steps can the NSW Government take to address such barriers?

Literature review³ cite the following barriers for females seeking to undertake STEM education and access defence industries as, but not limited to, the:

- need for quality teaching for students to become and remain engaged in STEM
- perceived difficulty of STEM subjects
- more opportunities to engage in high-quality STEM learning and experiences
- disillusionment of the transition from primary to secondary school
- lack of visibility of female role models for young females to aspire to
- lack of awareness amongst young women about STEM-related fields and careers
- negative views about success in, and unacceptable stereotypes about STEM.

Steps that the NSW Government could take to address barriers is:

- the implementation of effective coordinated policy solutions to address the multiple and interrelated issues as noted above that lead to women's underrepresentation in STEM fields
- make maths a compulsory school subject to increase the availability of STEM careers⁴
- promote culture change in schools, universities, workplaces and communities, noting that this is a long, generational, societal, cultural shift.

Question 12, a)

What benefits have been delivered by the ME Program to date? Based on this evidence, what steps should the NSW Government take to support the program and explore its roll out across the state?

The University of Newcastle acknowledges Regional Development Australia (RDA) – Hunter developed the Defence Industry Skilling Program and SMART workforce initiative known as the ME Program. As such, they are best placed to provide information about the benefits delivered by the ME Program to date.

With regard to steps the NSW Government take to support the ME Program and possible implementation across NSW, the University of Newcastle recognises the importance of raising student awareness of possible career opportunities and knowledge of Defence and defence industry pathways whilst increasing the number of students undertaking Science, Technology, Engineering and Mathematics (STEM) subjects in primary and secondary schools.

Question 12, b) Are there any other best practice examples being implemented in New South Wales that also merit further consideration?

In 2017, the University of Newcastle established the Hunter Women in STEM and Entrepreneurship (HunterWiSE)⁴ pilot which is an STEM outreach program based on mentorship. HunterWiSE was developed by a team of passionate female academics from the University of Newcastle and in

partnership with industry sponsors: Hunter Water, Glencore, and Muswellbrook Council along with assistance and support from the University's Newcastle Institute for Energy and Resources.

The pilot comprised of two stages:

- an in-school program with students from Muswellbrook High School which provided students with an opportunity to utilise STEM skills in a meaningful project, and to meet female STEM mentors
- the development of a Hunter wide network, which increased mentorship avenues for and collaboration among women working and studying in STEM.

The initiative brought together women working in STEM, STEM educators, and high school students, encouraging positive collaboration and sharing of experiences with the aim to encourage young women to pursue careers in STEM and support them once they commence those careers.

Driven by the initial success of the pilot program HunterWiSE will, with the support of the University of Newcastle's Faculty of Engineering and Built Environment, be delivering the program in two additional schools in 2018.

The HunterWiSE team will also be delivering a series of networking events for female STEM professionals across the Hunter. This dual approach of targeting students and professionals has the aim of increasing the number of females entering, and simultaneously encouraging retention of women already in, the STEM pipeline.

Question 13, a)

Should the NSW Government consider a defence industry technical skills development fund as part of its strategy to entice prospective students to undertake defence industry related courses at universities?

The University of Newcastle supports the NSW Government's consideration of defence industry technical skills development fund as part of its strategy to entice prospective students to undertake defence industry related courses at universities.

In line with the Commonwealth Government's National Innovation and Science Agenda, the University of Newcastle is committed to supporting and developing researchers through the provision of dedicated defence industry Higher Degree Research (HDR) scholarships. Whilst this is an example of defence industry innovation, research and education at a local level, investment by the NSW Government for a defence industry technical skills development fund, will help build the defence industry workforce of the future.

Question 13, b)

Are there other approaches the NSW Government can take to promote tertiary pathways for defence industry workers?

The University of Newcastle recommends the NSW Government consider the recently formed Defence Industry Education and Skills Consortium⁵ as a suggested approach to take with reference to the promotion of tertiary pathways for defence industry workers.

The Consortium comprises of South Australia's three public universities, TAFE SA and the leading defence industry association and aims to:

- inspire young people to choose the defence sector as a viable career path
- ensure education is closely tied to the skill needs of defence industry
- support existing workers to retrain and upskill so they can take advantage of emerging defence related opportunities.

The University of Newcastle supports the direct influence from national and international defence industry Primes to ensure relevant courses are available to provide the skills to meet the needs of the future Defence and defence industry workforce.

Question 14

Should the NSW Government help facilitate increased coordination between government, the defence industry, and universities in the creation of university courses that meet the needs of defence industry businesses? How can the NSW Government achieve this?

The University of Newcastle supports increased coordination between Government, the defence industry, and universities in the creation of university courses that meet the needs of defence industry.

As noted above, the University of Newcastle supports the direct influence from national and international defence industry Primes to ensure relevant courses are available to provide the skills to meet the needs of the future Defence and defence industry workforce.

Question 15

What measures can the NSW Government take to improve access to advanced trade courses in regional areas? For example, should the NSW Government provide financial support to create defence industry traineeships and apprenticeships in regional areas?

The University of Newcastle supports the NSW Government's consideration of advanced trade courses in regional areas and endorses the suggestion of financial assistance to create defence industry traineeships and apprenticeships in regional areas. This should be considered in conjunction with secondary education, vocational providers and Defence industry primes and small to medium enterprise.

Question 16

What further steps can the NSW Government take to promote collaboration between Defence, industry and academia?

To promote collaboration between Defence, industry and academia, the University of Newcastle suggests ongoing support for collaborative efforts, for example:

- NSW Defence Innovation Network
- NSW Cyber Security Network
- seed funding for research through proof of concept and research translation into viable commercial outputs
- facilitate regional events promoting networking and collaboration.

Question 17

What steps can the NSW Government take to further support research and innovation activities being undertaken by defence stakeholders?

The University of Newcastle recommends the following as suggestions the NSW Government take to further support research and innovation activities being undertaken by defence stakeholders:

- strengthen and promote formal collaboration networks between Defence, defence industry, Government and academia
- co-location and networking opportunities for defence stakeholders
- facilitate regional events promoting collaboration.
- Co-funding - encourage larger national and international Primes to partner with academic and small to medium enterprise.

Question 18

What steps can the NSW Government take to support New South Wales defence industry, and academic institutions tap into the opportunities created from Federal Government investment in a National Space Agency?

The University of Newcastle acknowledges the commitment by the Federal Government to establish a National Space Agency to ensure Australia has a long-term plan to grow the domestic space industry. From a research and innovation perspective, the NSW Government could:

- establish a forum for multi institution collaboration and cooperation similar to the NSW Defence Innovation and Cyber Security Networks
- issue a call for research and innovation capability to align and capitalise upon opportunities
- include entrepreneurs in discussion and call for capability.

Chapter 3: Supporting Small and Medium Enterprises (SMEs)

The University of Newcastle makes no comment on the following questions:

Question 19, a)

What steps can the NSW Government take to further support relationships between small and medium Enterprises and key suppliers and procuring entities?

Question 19, b)

What steps can the NSW Government take to ensure that federal support programs and initiatives are comprehensively utilised by New South Wales based industry?

Question 19, c)

Should the NSW Government invest further in supporting Small and Medium Enterprises to access trade shows and exhibitions? Are current efforts sufficient and are there any lessons for improvement?

Question 20, a)

Is there widespread industry support for the changes to the procurement landscape as identified by the Australian Defence Industry Interest Group?

Question 20, b)

What actions should the NSW Government take to enhance the flow of Defence procurement opportunities to New South Wales Small and Medium Enterprises and New South Wales industry more generally?

Question 21, a)

What further actions can the NSW Government take to provide additional support to businesses seeking to become 'defence ready'? What form should this support take?

Question 21, b)

What other examples of exemplar practice exist to support New South Wales industry become 'defence ready'?

Question 22, a)

What actions can the NSW Government take to assist small and medium enterprises to access the finance necessary to pursue business opportunities? Does the establishment of a body, with responsibilities akin to the Export Finance Insurance Corporation, merit further investigation?

The University of Newcastle is familiar with the Export Finance Industry Corporation (Efic) as a specialist financier that delivers simple and creative solutions for Australian companies to enable them to win business, grow internationally and achieve export success.

The University acknowledges that Efic is part of the Australian Government's Foreign Affairs and Trade Portfolio and the Minister for Trade, Tourism and Investment, and notes that Efic works with a range of different groups and organizations, for example Federal, State and Territory Government, national and regional export bodies, industry and professional associations and Chambers of Commerce.

Rather than establish a body with responsibilities akin to the Efic, financial incentives for small to medium enterprise to partner with Primes is suggested.

Question 22, b)

What steps can the NSW Government take to ensure that New South Wales industry is aware of and is making use of the services offered by the Export Finance Insurance Corporation?

The University of Newcastle makes no recommendation with regard to offering suggestions to the NSW Government to ensure New South Wales industry is aware of and is making use of the services offered by the Efic.

Question 23, a)

What enabling infrastructure projects should the NSW Government target to support defence industry start up and growth?

The University Of Newcastle recommends the NSW government consider formal incubator and accelerator programs in collaboration with universities to support defence industry start-up and growth, examples are:

- CSIRO ON On-Prime accelerator program⁶
The CSIRO program aims to address Australia’s low rate of collaborations between researchers and investors in Australia, translating research inputs into real-world outcomes
- Icon Accelerator Program⁷
a 10 week program that provides successful applicants with \$25, 000 seed funding, tailored business training and world class mentoring. The program is run in collaboration with the University of Newcastle and Slingshot Accelerator, Australia's number 1 corporate accelerator company

Also suggested is the continuation of support via the NSW Government’s Boosting Business Innovation program.,The University of Newcastle’s Integrated Innovation Network (I2N) is aimed at giving start-ups and small businesses access to research organisations to build strong local business communities and stimulate economic growth in NSW.

The University of Newcastle endorses the comments in the Discussion Paper regarding the importance of reliable and effective infrastructure such as broadband capacity. Improved transport options in regional areas would also underpin a strong defence network across the state.

Question 23, b)

What measures can the NSW Government take to help attract defence industry workers to regional areas? For example, should the NSW Government establish a community development fund to help create defence supportive communities in regional towns?

The University of Newcastle supports the establishment by the NSW Government of a community development fund to help create defence supportive communities in regional towns. These funds should be targeted to provide support cultural and sporting amenities to encourage defence industry workers to move to and stay in regional areas, and infrastructure that would encourage and support industry start-up and growth in regional areas.

-End of submission questions-

The University of Newcastle is grateful for the opportunity to provide comment on the *Defence Industry in New South Wales: Discussion Paper* and provide comment to incentivise and grow the defence industry in New South Wales to generate economic development

The University of Newcastle supports this submission to be made available publicly. For further information, please do not hesitate to contact

Professor Kevin Hall
Senior Deputy Vice-Chancellor, Research and Innovation

- 1 <https://www.newcastle.edu.au/newsroom/featured-news/university-network-to-drive-nsw-defence>
- 2 <https://www.newcastle.edu.au/newsroom/featured-news/university-of-newcastle-collaborates-on-cyber-security-network>
- 3 <https://www.newcastle.edu.au/newsroom/featured-news/nuw-alliance-seeks-community-input-to-shape-nsws-future>
- 4 <https://www.newcastle.edu.au/newsroom/research-and-innovation/support-for-women-in-stem-launched-in-the-hunter>
- 5 <http://www.unisa.edu.au/Media-Centre/Releases/2017-Media-Releases/New-Consortium-to-build-a-defence-ready-workforce/#.Wozi4IVOKUk>
- 6 <https://www.newcastle.edu.au/newsroom/featured-news/uon-innovators-to-accelerate-research>
- 7 <https://www.newcastle.edu.au/newsroom/featured-news/icon-accelerator-launches-for-hunter-region-startups>