



Australian Academy of Science

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Defence White Paper Team
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Dear Colleagues,

The Australian Academy of Science is pleased to offer the following comments in relation to the defence policy discussion paper *Key questions for defence in the 21st century*.

The defence policy white paper will set the policy and directions for the Department of Defence for the next ten years, and it is important that these priorities include building a stronger relationship with the non-defence research community in Australia. In preparing this response the Academy consulted with Academy Fellows and the Academy's national committees, as well as with other colleagues at universities, and it was apparent that there was limited knowledge about the research activities in the Defence Science and Technology Organisation (DSTO) and other defence agencies. This is in contrast with the experience in other developed nations, particularly the US, where a much greater collaboration occurs to the benefit of both the civilian and defence communities.

DSTO, with a staff of 2,300 and an annual budget of about \$400 million, is an Australian research-based organisation, second only in size to the CSIRO, and therefore represents a significant scientific capability for the nation. In addition, the Australian non-defence research community is a valuable source of innovation as shown by many international comparisons, including its production of almost 3% of the world's scientific papers from a global population of only 0.3%.

There are several other important reasons for DSTO and the Department of Defence to increase their collaboration with universities and other non-defence research organisations in Australia. These include:

- the increasing role of technology in all aspects of defence operations, such as the health of personnel, remote sensing, sophisticated communications, and materials technology, where civilian research is at the international frontiers;
- the decline in Australian defence R&D as a proportion of defence spending and the ageing of the defence research workforce; and
- the increase in military expenditure by some countries in our region, some by a factor of four (according to Andrew Davies, Australian Strategic Policy Institute).

The increasingly sophisticated technologies being employed with defence-related systems increases the need for external collaboration by organisations such as the DSTO. The Prime Minister's speech in Townsville on 9 September 2008 drew attention to the growth in Asian and US military expenditures which have dominated recent increases in global military spending. In addition, over the coming decades, the US may see its position decline relative to other economies, but it will remain a major economic influence and a powerful source of ideas, innovation and technology in the global economy. This is apparent from the US accounting for about one-third of all world patents, in contrast to 1.6% for Australia and 1.8% for China in 2004.

The Australian defence research organisations also need to work with the universities to increase the supply of suitably trained graduates, because the decades ahead will require that Australia is at the forefront of military technology development and acquisition. This will require a well-trained workforce at a time of an ageing defence research sector and a growing shortage of science and engineering graduates. The universities can also undertake the basic research which will allow DSTO and other defence organisations to deploy their resources for more applied research and development work.

The Academy already works with government agencies, on workshops and other initiatives, to help promote university awareness of their research programs, priorities and skilled workforce requirements, as well as the opportunities for research

collaboration. This has not occurred with DSTO primarily because the normal avenues for communication are not as open. The Academy is well-placed, however, to work with DSTO through its expertise in basic science, technology, and health, and is open to developing this linkage.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Kurt Lambeck', written in a cursive style. The signature is contained within a light gray rectangular box.

Kurt Lambeck