

MESSAGE FROM THE MINISTER FOR DEFENCE INDUSTRY



THE HON
CHRISTOPHER PYNE, MP

The Next Generation Technologies Fund is a cornerstone of the Turnbull Government's \$1.6 billion investment in defence industry innovation to build a technologically-advanced Australian Defence Force of the future.

The Next Generation Technologies Fund and the Defence Innovation Hub form the core of a new integrated defence innovation system. The new Centre for Defence Industry Capability is the front door and primary access point to the defence innovation system. Together these initiatives will contribute to Australia's economic prosperity and jobs growth.

At \$730 million over ten years, the Next Generation Technologies Fund is the largest ever investment dedicated exclusively to the development of future, game-changing Defence capabilities.

This calls for the combined intellectual talent and scientific ingenuity in our nation's universities, research agencies and industry to deliver innovative solutions that will defeat emerging and future threats, many of which have not yet been envisaged.

The opportunities offered under the Next Generation Technologies Fund are varied and challenging. They demand smart thinking, intensive research and sustained collaboration to succeed.

The Australian Government looks forward to these opportunities being transformed into effective capabilities for the Australian Defence Force.

Christopher Pyne
Minister for Defence Industry

INNOVATION PORTAL

The Department of Defence welcomes your innovative ideas, no matter how big or small. If you work for a university, research agency, multinational, have your own business, belong to a think-tank, or anything in between, Defence wants to hear from you. The portal website is home to Defence innovation priorities and helpful documents like our new intellectual property strategy and contracting framework. It's also where you can submit your innovation proposals to our two signature innovation programs – The Next Generation Technologies Fund and the Defence Innovation Hub.

13 28 46 | www.business.gov.au/cdic

NGTF PROGRAM LEAD

Dr Janis Cocking
Chief Science Strategy and Program
Defence Science & Technology Group
ngtf@dsto.defence.gov.au



Australian Government

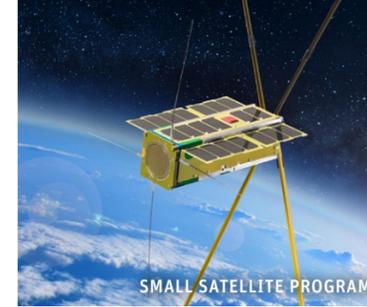
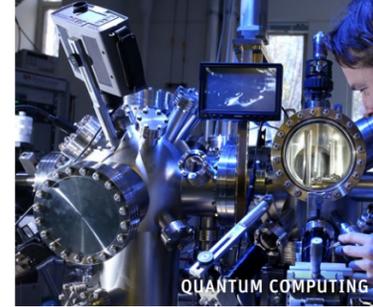


**DEFENCE INDUSTRY &
INNOVATION**

**NEXT GENERATION
TECHNOLOGIES FUND**

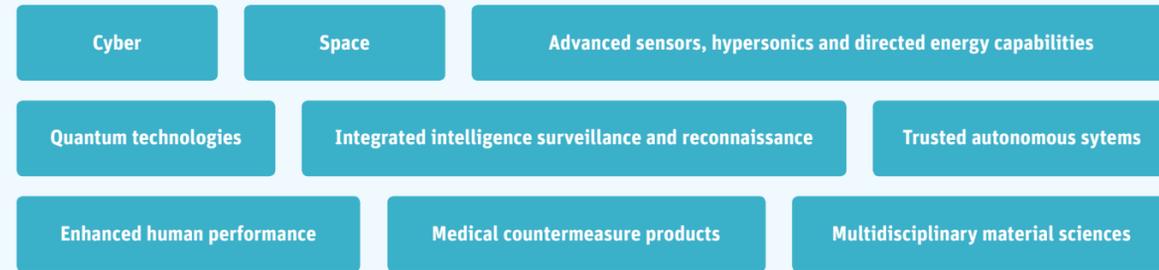
Next Generation Technologies
for Australia's defence and
national security

The Next Generation Technologies Fund focuses on fundamental research and the development of future game-changing concepts that can be further matured and realised into military capability through the Defence Innovation Hub. This forward-looking program with an investment of \$730 million over the decade to 2026, is managed by the Defence Science and Technology Group with the support of industry and academia.



TECHNOLOGY PRIORITY AREAS

The Defence Industry Policy Statement has identified nine priority areas for development under the Next Generation Technologies Fund:



BALANCED SCIENCE AND TECHNOLOGY (S&T) INVESTMENT PORTFOLIO



PROGRAMS UNDER THE NEXT GENERATION TECHNOLOGIES FUND

The Next Generation Technologies Fund will support a diverse range of multi-year, large-scale collaborative projects (in the tens of millions of dollars) and medium scale projects (in the low millions of dollars) to small scale projects (in the hundreds of thousands of dollars). These projects will be delivered under different initiatives. Some of these initiatives are mentioned here while others will be announced in due course.

GRAND CHALLENGES

Grand Challenges are highly complex defence problems which defy conventional solutions and require cross-disciplinary research across institutional and national boundaries.

The Grand Challenges program will see strategic investment in a limited number of large-scale, mission-focused projects with clearly defined end goals. Participation by academic institutions, publicly funded research agencies and defence industry is essential to ensure optimal outcome delivery.

The first Grand Challenge is to Counter Improvised Threats, recognising that unconventional threats are constantly evolving and have morphed beyond improvised explosive devices.

DEFENCE COOPERATIVE RESEARCH CENTRES

Defence will co-invest in Cooperative Research Centres with a focus on high priority defence-relevant next generation technologies. The centres will link defence industry and academia to create a vibrant collaborative research and innovation network focused on driving defence capability outcomes. The aim is to enhance defence capability and strengthen the academic community.

The first Defence Cooperative Research Centre is planned for the development of Trusted Autonomous Systems.

UNIVERSITY RESEARCH NETWORKS

For medium scale activities, the Next Generation Technologies Fund will support University Research Networks to help expedite cross-disciplinary research and build academic communities across Australia and around the world. Built on open partnerships and mutual investment in the academic domain, these networks will provide a robust mechanism for bringing together leading research teams to address defence priorities, with a strategic focus led by DST Group. Universities will get access to Defence scientists and specialist facilities while contributing directly to ADF capability. Defence will benefit from enhanced access to Australia's brains trust.

STRATEGIC RESEARCH PROGRAM

DST Group undertakes an ongoing program of strategic research initiatives aligned with Defence priorities. Where a specific new concept or technology domain shows potential to be developed into game-changing capabilities, further research will be undertaken under the auspices of the Next Generation Technologies Fund, using partners from across the innovation enterprise. The ongoing development of Australia's hypersonics research program, for example, could be facilitated under the Next Generation Technologies Fund.

SMALL BUSINESS INNOVATION RESEARCH FOR DEFENCE

This program is modelled on the successful US program (Small Business Innovation Research) which encourages domestic small businesses to engage in Federal research and development that has the potential for commercialisation.

Small investments in agile, innovative companies can deliver exceptionally positive outcomes. The proposed Small Business Innovation Research For Defence program will support research undertaken by small and medium enterprises. It will enable them to explore their technological potential through research projects aligned with Defence strategic priorities.

DEFENCE RESEARCH ACCELERATOR

A new generation of innovators is developing breakthrough products without the huge capital costs traditionally required for cutting-edge research and development. This agile approach leads to technology disruption, where inventions of new processes, products or systems are rapidly developed and applied to known problems in unexpected ways. Bringing this inventive approach to the market for Defence and national security products will improve capability outcomes. This program will seek to work with existing accelerators within the national innovation system, such as CSIRO's ON Prime program, to support the start-up community with an interest in Defence.

TECHNOLOGY FORESIGHTING

To prevent strategic surprise DST monitors global trends and undertakes technology foresighting. This activity is highly relevant for the development of future capabilities under the Next Generation Technologies Fund. This foresighting program brings together internationally recognised leaders and academic partners to consider the current defence environment, forecast future challenges and shape long term defence vision in a multidisciplinary workshop environment.

Universities have the opportunity to participate in the workshop series focusing on science and technology topics which are likely to have a major impact on defence and national security domains, including digital disruption.

