



Australian Government



# DEFENCE INDUSTRY & INNOVATION

NEXT GENERATION  
TECHNOLOGIES FUND

# SMALL BUSINESS INNOVATION RESEARCH FOR DEFENCE



## BIG INNOVATION OPPORTUNITY FOR SMALL BUSINESS

The Small Business Innovation Research for Defence (SBIRD) program provides an opportunity for Australia's Small to Medium Enterprises (SMEs) to undertake research projects which have potential for future Defence application.

A Defence Innovation initiative, the SBIRD program is managed through the Next Generation Technologies Fund.

Strategic investments in agile, innovative companies can deliver exceptional outcomes for Defence with national benefits. The SBIRD program seeks to encourage a new generation of innovators in developing breakthrough technologies for the Australian Defence Force.

Drawing on the successful US Small Business Innovation Research (SBIR) program, Australia's program will help SMEs explore their technological potential through research projects aligned with Defence strategic research priorities.

The SBIRD program brings SMEs and Defence together, enabling both parties to engage during the early research stages of a project.

It is an excellent opportunity for small business to develop and test their novel ideas. Funding will be provided to businesses offering the most promising solutions to a specific problem.

The SBIRD program has an emphasis on future focused problems of up to 2 to 3 years in duration. Promising early stage ideas may be fast tracked for further development within the Defence innovation system.

## TWO STAGE PROGRAM

Under the SBIRD program, research activity will be conducted in two stages and will address a specific research problem with a priority area identified by the Next Generation Technologies Fund.

Stage 1 will support proposals that seek to ascertain the feasibility of a technology/innovation for a Defence application, with funding of up to \$100,000 each over a period of between 6-9 months.

Stage 2 will test the technology/innovation of the most promising project or projects in a laboratory setting against the Defence application, with funding of up to \$750,000 each over a period of between 12-24 months.

SBIRD opportunities will be advertised as special notices on the Defence Innovation Website. Small businesses which express an interest may be invited to workshops hosted by Defence to help further refine their idea and proposal.

### HELPING BUSINESS

THE SBIRD PROGRAM WILL OFFER SELECTED INNOVATORS FUNDING TO HELP TEST AND PROGRESS THEIR NEW TECHNOLOGIES.

### HELPING DEFENCE

THE SBIRD PROGRAM WILL HELP DEFENCE SOLVE THE TOUGH TECHNOLOGY PROBLEMS IT FACES BY CONNECTING AND WORKING WITH INNOVATIVE BUSINESSES.

## NEXT GENERATION TECHNOLOGIES FUND PRIORITY AREAS

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

Cyber

Space

Advanced sensors, hypersonics and directed energy capabilities

Quantum technologies

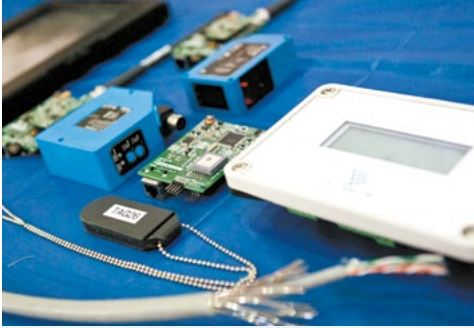
Integrated intelligence surveillance and reconnaissance

Trusted autonomous systems

Enhanced human performance

Medical countermeasure products

Multidisciplinary material sciences



Successful innovations by small business: (left) Naval automated personnel tracking device (Blue Glue), and (right) satcom-on-the-move terminal (EM Solutions).

Small business companies Myriota and IMeasureU will develop the Fight Recorder, a soldier-worn system to capture data from the battlefield.

## STAGE 1: TECHNOLOGY FEASIBILITY

The focus of Stage 1 is on research into the technical feasibility of an innovative idea or technology related to a Next Generation Technologies Fund priority area.

Available funding: up to \$100,000 per project.

Duration: 6–9 months.

### Stage 1 may include:

- Research into whether the technological solution could work/function
- Use of appropriate scientific rigour, modelling of technological outcomes, including virtual, algorithmic or physical
- Construction of a basic working piece (low fidelity unit or software) of technology and/or algorithm demonstrating function
- Generation of initial data confirming the technology/idea could potentially provide a solution to the problem being addressed.

## STAGE 2: TECHNOLOGY APPLICATION

The focus of Stage 2 is on testing a selected innovative idea or technology against the application.

Available funding: up to \$750,000 per project.

Duration: 12–24 months.

### Stage 2 may include:

- Testing the technology against the application, using simulated laboratory or environmental conditions
- Development of more sophisticated technical or software/algorithmic prototypes (medium fidelity units or software)
- Generation of data confirming the feasibility of the technology against the application
- Documentation developed should detail how the technology may be used, how it has been tested and any supporting results.

# BALANCED SCIENCE AND TECHNOLOGY (S&T) INVESTMENT PORTFOLIO



AGILITY ACROSS THE PORTFOLIO, INDEPENDENT OF SCALE





## MESSAGE FROM THE CHIEF DEFENCE SCIENTIST

The Small Business Innovation Research for Defence (SBIRD) program is being introduced to draw on the untapped expertise of the small business sector in Australia.

This initiative is based on a proven model—the US Small Business Innovation Research program—one of the longest-running and most successful of the programs established to support innovation in small businesses and start-ups.

The rapid pace of technology today demands that Defence reach out to the best and brightest to meet its future capability needs. Small business is the engine room of innovation and inspired thinking that can be harnessed to find solutions to the technology challenges for Defence and national security.

With their good ideas and specialist skills, small Australian companies have been an asset to Defence capability as evidenced by these examples:

- **Armour Composite Engineering** developed light-weight bullet and blast-resistant composite panels to replace steel armour on Army vehicles
- **Ebor Computing** pioneered a world-leading digital signal processing system to intercept and analyse potential security threats hidden in high frequency radio transmissions
- **Sentient Vision Systems** provided a novel system for real-time autonomous detection of vehicles and water vessels
- **Tectonica** introduced an integrated power system to allow soldiers to generate, store, distribute and manage their power needs in the field
- **L3 Oceania** developed encrypted through-water acoustic communications technology and the Autonomous Underwater Surveillance Sensor Network for coastal areas
- **Micro-X** built a portable digital radiographic imaging system providing life-saving support to Defence personnel in operational areas
- **EM Solutions** provided access to commercial and government satellites from a single on-the-move terminal, enhancing satellite communications in the most challenging terrains
- **CEA Technologies** developed a world-leading active phased scanned array radar system for anti-ship missile defence.

These are only a few of the many technology solutions that the small business sector is capable of delivering to Defence.

The SBIRD program is an opportunity for small businesses to build on these successes. Defence welcomes your contribution and participation in this program to achieve game-changing capabilities for the future Australian Defence Force.

### Dr Alex Zelinsky

Chief Defence Scientist



## MESSAGE FROM CHIEF EXECUTIVE

A key tenet of the Federal Government’s Defence White Paper is the fundamental input from the defence industry to boosting the capability of the Australian Defence Force including through the \$730 million Next Generation Technologies Fund.

Ai Group, through its Defence Council, whose membership includes leading companies in the defence industry, fully supports this initiative. It will encourage Small and Medium Enterprises to collaborate on innovative solutions to meet growing military challenges—at sea, in the air and on the ground.

With jobs and innovation being ongoing themes of recent State and Federal budgets, the Small Business Innovation Research for Defence program offers a terrific opportunity for SMEs to collaborate with Defence to deliver tangible capability benefits.

I note also that the SBIRD program’s framework is designed to protect intellectual property associated with company innovations thereby enabling dynamic companies to grow and prosper.

The announcement of the establishment of this mechanism for funding for SMEs to undertake important, defence-relevant research is welcome and I would encourage all to get involved.

### Innes Willox

Chief Executive, Australian Industry Group

## DEFENCE INNOVATION WEBSITE

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 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.

## SBIRD PROGRAM COORDINATOR

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