

Headquarters New Zealand Defence Force Defence House Private Bag 39997 Wellington Mail Centre Lower Hutt 5045 New Zealand

OIA-2025-5406 OIA-2025-5413

D July 2025

Dear

I refer to your request to the Department of the Prime Minister and Cabinet for the following information:

...all formal written briefings provided for, and all reports arising from, all multilateral engagements held under the Five Eyes S&T (TTCP II) and Squaredance MOUs during the month of April 2025.

This request was transferred to the New Zealand Defence Force (NZDF) on 26 May 2025 in accordance with section 14 of the Official Information Act 1982 (OIA). In line with the response to you of 4 February 2025, details of meetings concerning the Square Dance Memorandum of Understanding (MOU) are withheld in full in accordance with section 6(a) of the OIA.

In April 2025 the NZDF attended four meetings relating to the Five Eyes Science and Technology MOU (formerly the Technical Co-operation Programme II MOU). Copies of four briefings and one Post Activity Report are provided at Enclosures 1 to 5. Where indicated: names and contact details are withheld in accordance with section 9(2)(a) of the OIA; information about specific research conducted with New Zealand's foreign partners, and information and imagery relating to current and future capability, is withheld in accordance with section 6(a) of the OIA; and, viewpoints and opinions are withheld in accordance with section 9(2)(g)(i) of the OIA.

I also refer to your request received on 28 May 2025, seeking the following information:

...all briefings provided for and all reports arising from NZDF participation in the following meetings:

- GEOINT 2025
- DSEI Japan 2025
- Any Multilateral MOU Working Group meetings held under Squaredance/Five Eyes Science and Technology (TTCP II MOU).

Two NZDF personnel attended the GEOINT 2025 symposium. Their attendance was incidental to other duties in the area and no briefs or reports were produced as a result of their attendance. This part of your request is therefore refused in accordance with section 18(e) of the OIA.

A report was generated following attendance at the DSEI 2025 event. It concerns current and future capability and interoperability with foreign partners. It is withheld in full in accordance with section 6(a) of the OIA.

Information concerning the Square Dance MOU meetings is addressed above. New Zealand joined TTCP II MOU in 1975 and at least thirty meetings have occurred each year since then. This part of your request is declined in accordance with section 18(f) of the OIA as simply scoping the amount of information covered by your request would be a substantial research and collation effort. If you were to refine this part of your request, it will be considered accordingly.

You have the right, under section 28(3) of the OIA, to ask an Ombudsman to review this response to your request. Information about how to make a complaint is available at <u>www.ombudsman.parliament.nz</u> or freephone 0800 802 602.

Please note that responses to official information requests are proactively released where possible. This response to your request will be published shortly on the NZDF website, with your personal information removed.

Yours sincerely

GA Motley

Brigadier Chief of Staff HQNZDF

Enclosures:

- 1. Defence Science & Technology Minute 2025/042
- 2. NZ National Brief 2025
- 3. NZ National Update 8 April 2025
- 4. NZ National Update 31 March 4 April 2025
- 5. NZ National Summary 28 April 2025

HEADQUARTERS NEW ZEALAND DEFENCE FORCE Defence Science & Technology MINUTE

29 May 25

2025/042

DDST through Div Chief Information Warfare

For Information: EA TO DDST DST PROGRAMME LEADS NZ ISTAR GROUP REP

FVEY S&T ISTAR TP-1 ANNUAL MEETING- POST ACTIVITY REPORT

References:

A. TP-1 Invite

B. DST Travel Minute 990967

Introduction

1. s. 9(2)(g)(i) attended the FVEY S&T ISTAR TP-1 Annual meeting in Dayton, Ohio from 7 – 10 April 2025 in the role of NZ National Rep. The annual meeting aimed to provide an opportunity for each partner to update on their status, share progress on collaborative projects, and discuss potential future activities of interest to FVEY partners.

2. s.6(a)

Activity

3. New Zealand brief covered the Defence Capability Plan (DCP), quad charts of Sensing and Intelligence Programme, including the SAR4SAR trial.

s.6(a)

Value

13. TP-1 Annual Meeting provides a valuable opportunity for DST scientists to maintain awareness of cutting-edge S&T and engage with leading international researchers around topics of interest to NZDF.

14. It also provides the opportunity to showcase the work of the DST to our partner S&T community.

15. DST's participation in TP-1 Annual Meeting provided opportunities to collaborate with partners, which would be beneficial to DST S&I Programme and could have future interest to NZDF. Further discussions with partners will be required to establish if DST can resource future collaborative opportunities.

Cost

16. The estimated the total cost of this trip was \$9,173, against an initial budget of \$8,485, representing an overage mainly due to more expensive flights caused by late booking – the actual flight cost was \$2,368 higher than originally estimated.

Outcomes

17. The opportunity for DST to host the TP-1 Annual Meeting in 2026 has been identified.

18. The National Update briefing by DST was well-received and generated some very productive discussion which provided the opportunity to expand professional networks.

19. A draft activity proposal for the collaborative projects was discussed and developed, with an emphasis on ensuring that the project's outcomes will be sharing with FVEY partners.

Comment and Recommendations

20. Participation in this Shared Interest Group provides NZDF with valuable resources, insights, and expertise that go beyond our current internal capabilities, as well as insight into the strategic direction of our partners.

21. The activities within TP-1 are directly aligned with the work of the DST Sensing Intelligence Programme.

22. It is recommended that:

a.	s.6(a)

- b. **AGREE** to DST hosting the TP-1 Annual Meeting in 2026.
- c. **AGREE** to DST continued participation in TP-1 Annual meeting, with travel as essential to support future collaborative research or engagement.

s. 9(2)(g)(i)

Senior Research Scientist – Sensing and Intelligence FVEY S&T ISTAR TP-1 New Zealand National Lead

Programme Lead Comments	Further Action	Signature
	Accept Recommendation	
Division Chief Comment	Further Action	Signature
	Accept	
	Recommendation	
		C: 4
DDST Comment	Further Action	Signature
	Accept	
	Recommendation	
	1	



Defence Science + Technology

NZ NATIONAL BRIEF 2025

s. 9(2)(g)(i)

Research Scientist – Sensing & Intelligence

Who's Who?



Rt. Hon. Chris Luxon Prime Minister







Hon. Judith Collins, KC • AM Tony Davies Chief Minister of Defence

Dr David Galligan NZ Chief Defence Scientist & Director of NZDF's DST

News

DCP

- Release date is not confirmed but imminent within the next (2-3 months?)
- It is expected to lay out plans for a significant uplift in NZDF funding. Comments from the PM are for 2% GDP.

Civilian Restructure

• Cost saving initiatives within NZDF is resulting in a likely reduction in the civilian workforce via voluntary and enforced redundancy. Currently in the consultation phase. Unknown this stage if DST will be affected.

Our Organisation

Dr David Galligan Chief Defence Scientist

PROGRAMME DELIVERY

Clint Barnes Platform Warfare

Air Warfare Maritime Warfare Land Warfare Autonomous Systems Space & Navigation Warfare PROGRAMME DELIVERY Sally Garrett Information Warfare

Sensing & Intelligence Cyber & Electromagnetic Warfare Concepts & Strategic Analysis Human Sciences

> Climate Change & Extreme Environments

ENABLING

Matt Hopkins Science Excellence & Partnering

Operations Support Team Business Transformation Cell







Synthetic Aperture RADAR for Search and Rescue (SAR4SAR)







UNCLASSIFIED

Context

- South Pacific fishers often go to sea in small (sometimes wooden) craft with little or no communications or safety equipment
- Breakdown and end up adrift on the high seas
- Difficult to detect due to size and construction
- New Zealand has a very large Search and Rescue region and few longrange assets
- The NZDF is often called upon to provide Search and Rescue platforms e.g. P8
- These are expensive to operate!







SAR4SAR Concept

- Exploring whether low-cost, low-tech RADAR reflectors provided to South Pacific fishers would make their craft visible to space-based Synthetic Aperture RADAR systems and therefore provide Search and Rescue platforms a refined search area
- Reflectors could be provided under Pacific aid programmes
- Intended outcomes
 - Efficient tasking of NZDF platforms
 - Better outcomes for South Pacific fishers
- NZ Coastguard also has an interest for inshore Search and Rescue







SAR4SAR Trial Programme

- Collaboration with The University of Auckland
- Partners also performing collects
- Phase 1
 - Land based de-risking trials to refine designs and down select RADAR reflectors for phase 2
 - Just completed
- Phase 2
 - Inshore sea trials
 - Summer 2024/25
- Phase 3
 - Offshore sea trials
 - Timing TBD











NZ National Update



ISTAR TP-4 ANNUAL MEETING 8 Apr 2025

s. 9(2)(g)(i)

Research Lead – DST





Outline

- National update
- Defence Capability Plan 2025
- Upgrades & acquisitions
- ANZAC Frigate Upgrade
- HMNZS Manawanui
- DST structure
- s.6(a)

National update

- Government focus on reducing spending, costcutting in the public sector and returning the budget to surplus.
- Government departments were required to reduce spending from 6.5% to 7.5%.

s.9(2)(g)(i)

(2)(g)(i)			

Defence Capability Plan 2025

 \$12 billion NZD plan for Defence capability 2025-2028, including \$9 billion in new spending. Plan to increase total defence spending to 2% of GDP in 8 years



- Enhanced strike capabilities for P-8 and frigate, possibly land forces
- Frigate sustainment programme
- Persistent surveillance (uncrewed autonomous vessels)
- Maritime helicopter replacement
- Defence Science & Technology uplift

Upgrades & acquisitions

- Five C-130J transport aircraft.
- Six REMUS 300 uncrewed underwater vehicles as part of a regeneration of MCM capability





5

ANZAC Frigate Upgrade

- Upgrades have been completed and both ships are back in service.
- Refitted ships undertaking OTE incrementally.
- End-of-life extended to 2035
- 2024 successful test firing of the Sea Ceptor anti-ship missile defence systems



HMNZS Manawanui

- Dive support and hydrographic vessel for the RNZN.
- s.9(2)(g)(i)
- Subsea infrastructure inspection, salvage, ROV operations, MCM support, seabed mapping.
- Was equipped with a dynamic positioning system which made it particularly adept in these roles.

s.9(2)(g)(i)





Defence Science & Technology

- Two science & technology "divisions", one business division
- 13 Science & Technology teams
- 2025: possible uplift in resourcing through defence capability plan

s.6(a)

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NZ NATIONAL UPDATE

FVEY S&T LND TP13 MEETING 31 March to 4 April 2025, DST, New Zealand
Political Update

- Current government half-way through its term
 - Three party coalition (National, ACT, NZ First)
- Prime Minister Rt Hon. Christopher Luxon
 - Staggered deputy PM roles
- Minister of Defence Hon. Judith Collins





Defence Assessment 2021

Key themes:

- Strategic competition in INDOPAC
- Future physical operating environments
- Cyber and Space domains
- Information warfare
- New DCP finished last year but not yet publicly released

s.9(2)(g)(i)



Translation: Navigating turbulent seas

Defence Policy and Strategy Statement 2023

Key themes:

- **Understand** the current and future operating environment.
- **Partner** within and beyond New Zealand, particularly around the INDOPAC region.
- Act across the full spectrum of military operations (combat through to support to the civil power.)



Army Plan 2024

The NZ Army currently has two main operational platforms the Motorised Infantry Battle Group (MIBG) and the Special Operations Task Group (SOTG).

Chief of Army's Capstone orders:

- Revision of Army ORBAT
- Training and doctrine evolution
- Force generation and culture
- Force modernisation
- Plan ANZAC
- Interoperability (ABCANZ)



Land Projects

- 'Networked-Enabled Army'
 - Tranche 2 (tactical ISREW) IIS
 - Tranche 3 (higher echelon C2) req def
 - NCF/CJADC2 are key considerations
- Information operations (IWA)
- Platforms
 - Bushmaster IIS (LOV replacement)
 - PMCP (deferred) (LAV replacement)



• GATS



INFORMATION ACT 1982



Defence Science + Technology

Quick Overview



Defence Science + Technology

Our History



Who We Are



Defence Science + Technology

Defence Science & Technology (DST) is a specialised unit enabling the NZDF through the application of leading edge applied science, technology and engineering



A team of 68 Scientists, Technologists, Engineers and support staff



Apply S&T Solutions to Defence Operations



Main facility at the Devonport Naval Base

Our Leadership



David Galligan, Director DST



Clint Barnes Division Chief Platform Warfare



Sally Garrett Division Chief Information Warfare



Defence Science + Technology



Matt Hopkins Division Chief Science Excellence & Partnering

Our Science Programmes



Defence Science + Technology



Sensing & Intelligence

Application of AI for Intelligence & Data Collection

- Understand and exploit artificial intelligence
- Automating tools and detecting patterns
- Faster data analysis and enhanced cueing



Cyber & Electromagnetic Warfare Cyber Defence & Radio Frequency Systems

- Exploring cyber resilience, awareness & protection
- Novel radio frequency sensing
- Resilient communications alternatives



Concepts, Strategy & Analytics

Research to inform Decisions, Planning & Policy

- Analytical methods to enhance strategic decision making
- Analysis of emerging and disruptive technology



Human Sciences

Understanding our People: Cognitive & Physical Performance

- Integration with emerging technological systems
- Increased survivability in high-risk environments



Climate Intelligence Supporting the NZDF through a Changing Climate

- Understanding the ability of NZDF to respond
- Adapt to decrease operational risk
- Compliance with legislation and regulation



Air Systems Advancing the Protection of NZDF Aircraft

- Assurance of aircraft self-protection systems
- Informed procurement and through life support
- Reduced combat risk for operations



Maritime Systems

Tactics & Technology to Protect our Sailors & Ships

- Fully realise our ship's self-protection systems
- Research into advanced sensors, effectors and autonomous systems



Land Systems

Maximise the Safety & Effectiveness of our Land Systems

- Armour & protection systems
- Detection of and protection from chem and bio threats
- Signature management of people and platforms



Autonomous Systems

Harnessing the Potential of Autonomous Systems

- Accelerate Government and NZDF adoption
- Generate knowledge to support acquisition
- Counter autonomous threats



Space & Navigation Warfare

NZDF's Research Pathway to Space Domain Operations

- Surveillance of space activities
- Space domain interoperability
- Resilience of NZDF navigation and timing services

Our Operating Model

Defence Science + Technology



Current NZ LND Involvement

s.6(a)

No NZ lead for TP12.



Current Challenges

s.6(a)

Civilian Workforce Saving Programme

- Civilian pay freeze since 2024
- Recent announcement to remove 667 civilian positions in the NZDF (out of approx. 3,200 civilian positions). Net reduction 374.

s.6(a)

No decision yet on NZ involvement in AUKUS pillar 2



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NEW ZEALAND NATIONAL SUMMARY

FVEY S&T C4I Group Annual Meeting

28 April 2025

s. 9(2)(g)(i)

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Who We Are

DST is a specialised unit enabling the NZDF through the application of leading-edge applied science, technology and engineering

- DST is the primary provider of defence S&T support to the NZDF and MoD
 s.9(2)(g)(i)
 - DST offers a broad knowledge base
 - Civilian component within NZDF framework
 - Main facility at the Devonport Naval Base





s.6(a)

... Who We Are

- In-house laboratories, computing and analysis capabilities, secure infrastructure.
- DST extensively leverages use of:
 - External partner expertise and opportunities especially through FVEY
 - NZDF military platforms, systems and personnel
 - Other NZ government agency infrastructure and resources
 - NZ university laboratories and staff



Defence Science + Technology

s.6(a)



Vision

Defence Science & Technology advice is at the heart of NZDF's decision making, underpinning the ability of NZDF to operate in an increasingly complex, contested and technologically advanced environment





Our role

Hub of expertise and knowledge to support defence operations and decision making

- Multi-disciplinary, evidence-based and impartial
- Seek, explore and create solutions for a range of challenges
- Scale through partnering with Academia, the Scientific Community & Industry





s.6(a)

... Our role

Identify and assess future technologies to enhance NZDF capabilities

Scientific advice to support acquisitions and operations

Develop technologies that provide new capabilities

Enhance and/or extend the lifespan of current capabilities

Solutions to technical problems as they arise



Defence Capability Plan 2025

- Released on 7 April 2025
- Investment intentions over the next 15 years
- Focus on the first 4 years: \$12 billion NZ
- More integration with our ally Australia
- Enhance the ANZUS alliance
- Interoperability with FVEY partners
- Rapid changes in the world warrant DCP update every 2 years





Defence Capability Plan 2025

Investments over the next 15 years



A focused and combat capable Navy with a mixture of combat, patrol, and multirole ships.







An Air Force that operates globally, with select combat capability, and which provides situational awareness and intelligence.



Strengthened cyber and information capabilities to protect the NZDF's networks and systems, and provide defensive cyber, electronic and information warfare effects. A workforce

with the physical and digital infrastructure that is fit-for-purpose for a modern defence force.

Indicative spend by area over the next 4 years





Defence Capability Plan 2025

Defence Science and Technology (DST), 2025-2028 indicative investment:

- Uplift:
 - ✓ An investment into R&D in S&T to ensure NZDF can operate alongside partners in contested and congested environments
 - ✓ Up to \$50 million
- Technology accelerator:
 - Will be established to enable NZ's high tech sector to develop advanced platforms specifically focused on NZ defence problems
 - ✓ To improve industry's understanding of NZDF requirements
 - To help transition technology from prototype to service ready capabilities
 - ✓ \$100 300 million



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Defence Assessment 2021

- Strategic competition
- Impacts of climate change
- Security interests in Pacific
- Interoperability with partners
- Challenges in Cyber and Space domains
- Recognised quantum technologies and telecommunications as potentially transformative technologies with far-reaching impacts on the character of military operations and conflict.

Previous NZ strategic papers have called for a contribution to the international cyberspace security, and comms protection. Quantum communications and computers promise to play a key role in these areas.







Defence Policy and Strategy Statement 2023

Defence Strategy

- Understand our strategic and operating environments using defence capabilities and technologies.
- **Partner** within and beyond New Zealand, particularly Australia and the Pacific, interop.
- Act improve combat effectiveness, increase presence and resilience.





Defence Policy and Strategy Statement 2023

- Focus on shaping security in the pacific.
- Contribute globally to collective security efforts.
- Respond to national and international events where required.
- Artificial Intelligence and Quantum Technologies will be increasingly transformational.

Defence Force needs to be more agile in adopting new technologies, including those that will help protect NZ and those that can project force.





Future Force Design Principles 2023

- To inform government decisions for NZDF development.
- A bridge toward addressing challenges of increased strategic competition that DPPS 2023 identifies.
- Defence Force needs to be more agile in adopting new technologies, including those that will help protect NZ and those that can project force.
- Recognises the need to recruit more STEM educated staff, and upcoming competition with other sectors.





Our Operating Model

Where we are heading

TE OPE KĂTUA O AOTEAROA

DEEENCE EORCE



Defence Science + Technology

S&T Partnering



- Academia
- NZ Government Science
- NZ Partner Agencies
- NZ Industry
- International Partners





Our Organisation

Dr David Galligan Director DST, Chief Defence Scientist, NZ FVEY S&T Principal			
PROGRAMME DELIVERY Clint Barnes Platform Warfare	PROGRAMME DELIVERY Sally Garrett Information Warfare	ENABLING Matt Hopkins Science Excellence & Partnering	
Air Warfare Maritime Warfare Land Warfare Autonomous Systems Space & Navigation Warfare	Sensing & Intelligence Cyber & Electromagnetic Warfare Capability & Strategic Analysis Human Sciences Climate Change & Extreme Environments	Operations Support Team Business Transformation Cell	





Defence Science + Technology

)ur Science Programmes



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Extreme Environments

Supporting the NZDF through a Changing Climate

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Counter autonomous threats

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Current NZ FVEY S&T TP/AG National Leads

Tech Panel	NZ National Lead
TP41	s. 9(2)(a)
TP42	s.9(2)(a)
TP43	s. 9(2)(a)
TP44	s.9(2)(a)
AG45	s.9(2)(a)





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