



dta

Defence Technology Agency



**NEW ZEALAND
DEFENCE FORCE**

RESEARCH,
SCIENCE &
TECHNOLOGY
STRATEGIC PLAN

FY 2014/15 – FY 2019/20



THE NEW ZEALAND DEFENCE FORCE



INTRODUCTION ●



FROM THE VICE CHIEF OF THE DEFENCE FORCE

The New Zealand Defence Force is tasked by Government with being an effective military force in defence of New Zealand's sovereignty and the security of its people. We recognise that having well-trained, well-equipped and well-informed operational forces is central to achieving this. Now, more than ever before, a relevant defence force is one that is open to innovation and one that adopts a future focus. An emphasis on Research, Science and Technology (RS&T) input is a key enabler to achieving this.

This strategy provides a response to a review of the Defence Technology Agency. It has been developed with the aim of better supporting capability delivery through an approach that aligns RS&T with Defence priorities, and targets capability development and acquisition where there is the potential to realise significant RS&T value. The strategy places an emphasis on interagency mechanisms, engagement with other RS&T organisations (both at a national and international level) and on the development of industry partnerships aimed at exploiting technologies.

Three themes underpin this RS&T strategy:

Impact – using RS&T to leverage capability and capacity through collaboration and the transfer of technology in support of the NZDF and other Government Agencies.

Relevance – a structured approach to RS&T that aligns RS&T programmes to reflect NZDF current and future strategic needs.

Penetration – to inject scientific input into all capability and operations-related decision-making, to target risk mitigation, and to provide frank and independent advice and technological solutions to enhance military operations.

Realisation of this strategy will contribute to the better and more effective integration of RS&T into the NZDF. As such it forms an important element of the NZDF's future direction.

A handwritten signature in black ink, appearing to read 'K Short'.

Air Vice-Marshal
Kevin Short



FROM THE CHIEF DEFENCE TECHNOLOGIST

The effective identification, development and innovative application of technology is vital to the performance of a modern defence force. Limited resources require this to be achieved in a highly focused and effective way. The Defence Technology Agency must perform this function as an integral part of the NZDF, for which it is the primary provider of technological support and innovation.

This strategy calls for increasing the degree to which the Defence Technology Agency informs operations, qualifies the acquisition of new capabilities and produces more robust evidence-based decision making. It is a comprehensive response to the mandate for significant change, which was issued in the Review of the Defence Technology Agency: Applying Science for New Zealand's Security and Prosperity, March 2011. The strategy builds upon this earlier work to develop a framework for the development of a more outward-focused, and more efficient and effective defence science organisation. As such, it provides an important basis to validate and track in a measured way the future contributions of the Defence Technology Agency.

The strategy recognises that the effectiveness of the Defence Technology Agency is increasingly dependent upon its ability to network with other technology providers not only in New Zealand but also internationally. In this process, strategic initiatives that are employed to drive the objectives will facilitate the further integration of DTA into mainstream science in NZ for mutual benefit. It will increase the impact of RS&T on the NZ economy through increased transfer of knowledge and technologies that are developed in support of the NZDF. By becoming more mainstream, the Defence Technology Agency will increase the level of support that it can provide to the NZDF.

A handwritten signature in black ink, appearing to read 'Peter Lee'.

Dr Peter Lee

RS&T OVERVIEW ●

Research, Science & Technology (RS&T) activities are vital to the NZDF. These activities enable NZDF to remain a future-focused, relevant and capable force. The NZDF, as a modern military force, uses RS&T for the identification, development and support of military capabilities and operations.

RS&T enables capabilities and operations through:

- providing scientific advice to support acquisitions and operations
- providing solutions to technical problems as they arise
- identifying and assessing future technologies to enhance the NZDF's capabilities
- developing technologies that provide new capabilities

There are a number of organisations within the NZDF that, in broad terms, participate in the RS&T efforts of the NZDF. The Defence Technology Agency (DTA) is the primary provider of RS&T support for the NZDF. DTA provides expert, timely and objective advice and expertise to support current, developing and future NZDF capabilities, and operations.

DTA's mission is to practice "the innovative application of science and technology to enable the NZDF to secure and protect New Zealand – now and in the future."

DTA provides RS&T support in the following areas:

- **Networked Force Development.** Network Enabled Capability (NEC) is an important influence on the future of operations in the information age and is therefore a key driver in future capability requirements. The Networked Force is the NZDF concept that recognises the convergence of NEC and the need to effectively operate both with other military forces in coalition operations, domestic government agencies and non-Government organisations both in New Zealand and overseas.
- **Structural and Capability Analysis.** Analysis of structures, capabilities and operations for the purpose of informing decision making. It includes the provision of RS&T support for NZDF experimentation, war gaming and simulation.
- **Force Protection.** The NZDF is operating in an increasingly complex operational environment in which asymmetrical threats are more likely. Providing NZDF Force Elements with the best possible protection is an important combat multiplier. This work improves the protection of both NZDF platforms and personnel, and includes chemical and biological defence.

- **Human Performance.** Operational capability is delivered through people. They are the sole component of capability with the intrinsic ability to generate value. This work is geared towards enhancing human performance and improving the human-machine interface.
- **Through Life Support.** Equipment management is a whole-of-life concern. Appropriate research must be undertaken in order to reduce the through-life costs of a capability. Technological support is provided for acquisition, through-life support, mid-life upgrades and disposal.

NZDF's RS&T is also supported by other internal organisations that provide an important path for knowledge and technology transfer into the wider NZDF. They may occasionally commission external research and development from their own resources. They include:

- **HQ NZDF** – Capability Branch, Defence Personnel Executive, and Defence Health Directorate
- **RNZN** – Fleet Personnel and Training, and the Logistics Command (Maritime)
- **NZ Army** – Army General Staff, Logistics Command (Land; incorporating Standards, Quality, and Engineering Authority), and the Training and Doctrine Command
- **RNZAF** – Air Staff, Operational Units, Logistic Command (Air), and the Aviation Medicine Unit

There is also an increasing level of external RS&T support for NZDF, most of which is engaged directly with the DTA. In addition to providing leverage for NZDF's RS&T capability and capacity, these relationships help stimulate new approaches to problems, and assist with the identification and development of commercial pathways for DTA technologies. Formal agreements are in place with:

- **Auckland UniServices Ltd** – for Intellectual Property (IP) commercialisation and other services from the University of Auckland
- **Institute for Environmental Science and Research Ltd** – for support to the NZDF in the area of chemical and biological defence and associated technologies
- **University of Otago** – for human systems research
- **Massey University** – for a range of RS&T, teaching, and other support services
- **Callaghan Innovation** – for technology development and technology transfer assistance



Internationally, DTA is involved in several Five-Nations RS&T relationships, the most significant of which is its membership of more than four decades in the Technical Cooperation Program (TTCP). TTCP directly involves the efforts of more than 1000 scientists and engineers, and indirectly leverages the efforts of more than 6000. With the exception of Chemical, Biological, Radiological and Explosive Defence (CBRE), TTCP activities encompass and significantly facilitate the full spectrum of DTA's work. DTA also has bilateral relationships with Australia's Defence Science and Technology Organisation and the United Kingdom's Defence Science and Technology Laboratory



VISION ●

“RS&T leading NZDF into the future.”

RS&T is a force multiplier which can play a leading role in most aspects of NZDF capability and operations. Over the next five years, we will work to ensure that RS&T measurably enhances the development of military capability, informs operations, and in so doing leads NZDF into the future.

VALUES ●

In support of the NZDF's RS&T mission, we embrace and reaffirm the core values of NZDF: Courage, Commitment, Comradeship, and Integrity. In addition to these four, we add the additional value of Innovation. Interpreted through the lens of RS&T, these values are described as follows:

Integrity

Integrity is the basic value underpinning all we do. It is an essential element of our relationships with each other; it is a crucial contributor to our scientific rigour and our personal and professional credibility. Our integrity gives our customers and stakeholders confidence in our work.

Courage

We provide frank and independent advice that is delivered without hesitation, even when it may conflict with the status quo. We take the calculated risks that are necessary to develop the truly creative outcomes that best support NZDF's mission.

Commitment

We understand and emphasise the importance of commitment to our customers, to our stakeholders, and to our people. This commitment is reflected in strong teamwork and in our continuing efforts to provide high-quality science-based outcomes to fulfil our mission.

Comradeship

Our comradeship arises from a culture of friendship, mutual respect, teamwork and working together towards a common cause. We recognise that it is our combined efforts that deliver the greatest value.

Innovation

Our innovation and creativity are what enable us to provide high quality advice, solutions, and technologies for NZDF. We continually seek new approaches to produce transformative outcomes.

MISSION ●

“The innovative application of RS&T to enhance NZDF's capacity to secure and protect New Zealand and its interests.”

STRATEGIC CONTEXT ●

A number of resources were used to identify strategic issues for the NZDF RS&T plan, including:

- Defence White Paper (2010)
- Future35: Our Strategy to 2035
- Future Joint Operating Concept 2035
- Statement of Intent 2012-2015
- Review of the Defence Technology Agency: Applying Science for New Zealand's Security and Prosperity
- Defence Capability Plan
- Defence Force Order (DFO) 01/2012: Research, Science and Technology in the New Zealand Defence Force
- Analysis of strengths, weaknesses, opportunities and threats
- NZDF personnel

The 2010 Defence White Paper (DWP) set the overall direction for Defence for the next 25 years. Fundamental to the White Paper is a commitment to maintaining a Defence Force that is able to deliver the range of policy outcomes expected of it. Although not explicit in how RS&T will contribute to those policy outcomes, the DWP makes broad statements – reinforced by subsequent NZDF strategy documents – about the requirements for capabilities that require significant RS&T input, such as enhanced interoperability, and network-enabled intelligence, surveillance and reconnaissance. Additionally, it endorsed the upgrade and eventual replacement of current capabilities, for which RS&T will also make an important contribution. The DWP also identified a need for increased commercial outcomes from intellectual property developed in the course of this RS&T work.

The Review of DTA produced a number of key findings which help define the issues for the RS&T Strategy. These included:

- A new Defence RS&T Strategy should be introduced which indicates how RS&T will support capability delivery as well as other defence, security, and economic priorities over the next 5 to 10 years
- Connections between defence, intelligence and security ought to be recognised and exploited, with DTA's relationships with related agencies (e.g. Police and Customs) formalised and mechanisms put in place to give these agencies access to DTA, consistent with a whole-of-government approach to security.
- NZDF and the Ministry of Defence need to become more informed users of RS&T and enhance the level of RS&T capability and awareness within their workforces.
- There should be increased emphasis on retaining and developing RS&T capabilities that ensure its work closely aligns with Defence priorities. Resources allocated to areas that are not Defence priorities should be urgently reprioritised.
- DTA should focus on 'support to acquisitions' and 'support for current operations' over the next few years in order to produce gains in efficiency and effectiveness, better value for money, and improved alignment with DWP priorities.
- There should be increased coordination of RS&T activities across NZDF to avoid duplication and inefficiency.
- DTA needs to increase its accessibility and become more engaged with other RS&T organisations within New Zealand and overseas.
- Consistent with the direction of the DWP, the Review recommended that DTA should develop the capability to manage technology transfer and should seek industry partnerships to exploit technologies with significant commercial potential for the benefit of New Zealand.
- That DTA develop its foresighting capacity in order to provide periodic updates on future and emerging technologies



The Defence Capital Plan requires that operations necessary to fulfil the DWP outcomes, including the acquisition of new capabilities, must be funded from the current budget. This budget will be supplemented by a \$350 – \$400M efficiency programme for re-investment in front line activities.

Thus NZDF's tight fiscal environment, more than ever, necessitates robust and rigorous capability definition and acquisition processes, and maximum efficiency of operations. As the DTA Review indicates, this can be achieved in part by systematically embedding RS&T – incorporating the advice of both operations analysts and subject matter experts – in these processes.

While close examination of the contribution made by RS&T shows clear instances where it provides significant value, a more quantitative assessment of the value added by RS&T is required to assess where and when it should be applied. In addition to elucidating the value gained from RS&T investment, this information would also show how relatively scarce RS&T resources can be applied for maximum effect.

In recent years NZDF has earned a modest amount from the commercialisation of technologies developed in the course of RS&T support to operations and capability.

There is considerable opportunity to increase this revenue through a more focused effort and the development of more sophisticated technology transfer processes.

Given present budget constraints, there is little scope for growth in the RS&T workforce, however, NZDF has historically leveraged its RS&T capability through defence science relationships with other nations. There is latitude for considerably more leverage of both capability and capacity through cooperation/collaboration with a range of RS&T organisations in both defence and non-defence sectors. There is particular merit in collaborating with other government agencies with national security interests where mutual benefits can be derived from the work.

The SWOT analysis reiterated and concurred with much of what has been stated above. Most weaknesses and threats could be obviated, and opportunities capitalised upon, through strategic partnerships with other science organisations (defence and non-defence) and with industry. NZDF's RS&T strengths, such as flexibility, expertise, and connectedness with the end-user, make it an attractive partner for these relationships.

DFO 01/2012 establishes a number of requirements for NZDF's RS&T. These were:

- Provide unbiased and authoritative advice. All decision-making processes in the NZDF shall be supported by rational and robust advice based on sound theoretical analysis or empirical evidence.
- Identify and assess new and emerging technologies. The NZDF (and the Ministry of Defence) need to be informed of technological and conceptual developments in both the military and commercial spheres, and how these factors may enhance or disrupt current and future capabilities.
- Assist risk mitigation. RS&T activities shall be used to reduce risk in future capability determination, acquisition and sustainment of existing capabilities.
- Provide targeted support. Innovative opportunities to enhance the usability and extend the lifespan of current capabilities should be investigated.
- Research into new technologies in advance of acquiring a capability. Some RS&T activities may primarily serve to increase the knowledge and expertise of personnel in new technologies in preparation for future developments which may or may not include acquiring a related capability.
- Develop new technologies. Occasionally it may be necessary to produce technology solutions to fill a capability gap that cannot be filled using military- or commercial-off-the-shelf solutions.
- Utilise collaborative leverage. To offset the NZDF's limited RS&T capacity, efforts shall be made to undertake collaborative work with both local and international research agencies and centres of excellence.

In most respects these requirements parallel the observations discussed above, with the exception that the DFO stipulates the provision of support for obsolete systems and equipment, plus human factors advice on the impact of new technologies on personnel.

Based on the above information, we identify the following key strategic issues:

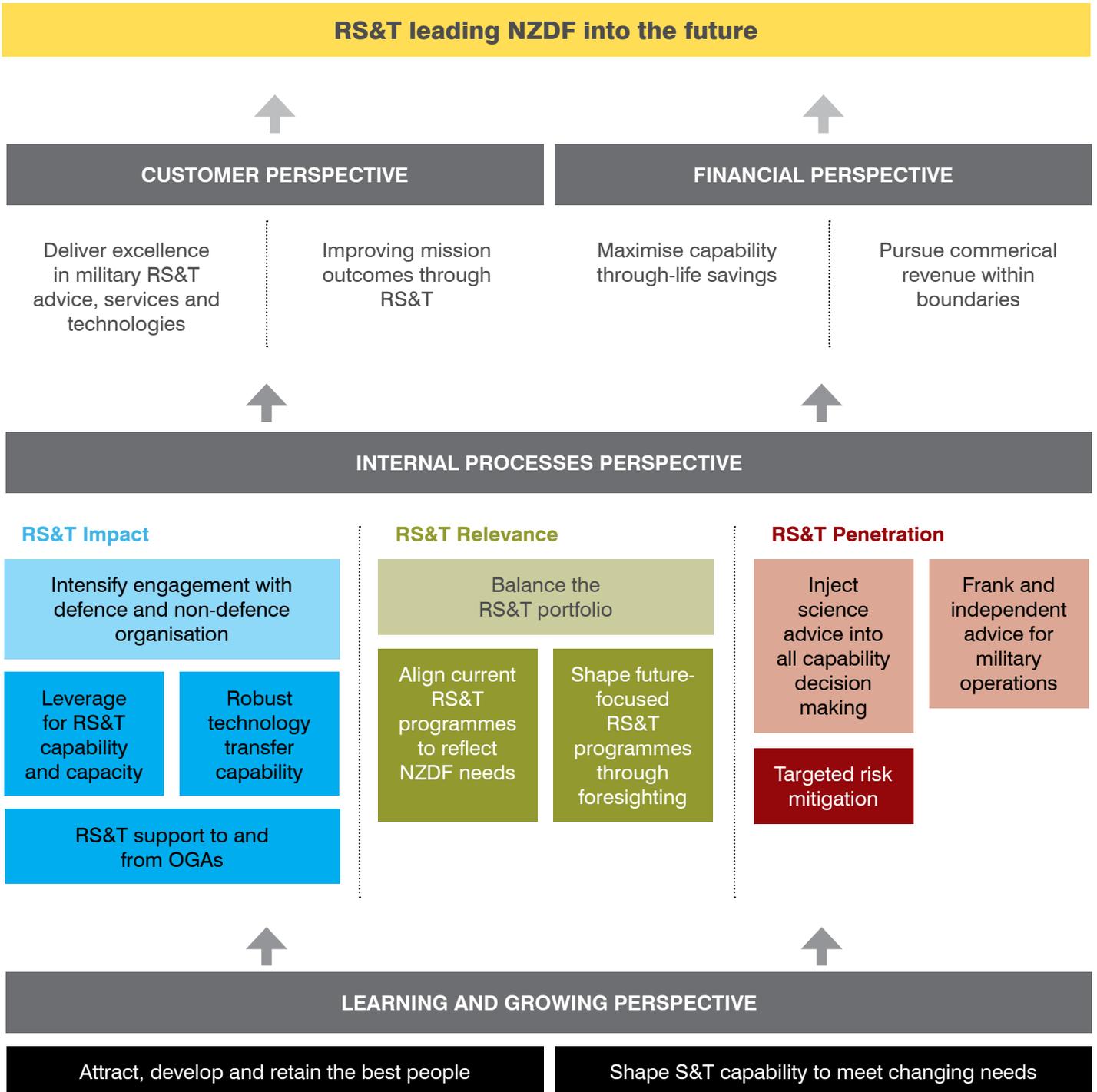
- More RS&T support required for acquisitions and current operations.
- Increased foresighting of emerging technologies.
- Technical support to other New Zealand security and intelligence agencies should be expanded to allow NZDF to become central to a whole-of-government approach to security collaboration.
- Increased level of collaboration with non-defence science organisations for both research and commercialisation, and more focus on bilaterals with defence science organisations.
- Improved matching of RS&T capabilities with NZDF priorities.
- Continuing development of RS&T staff to meet changing needs of NZDF.
- More RS&T situational awareness required within NZDF and MOD.
- Understand and increase value from RS&T investment.

These strategic issues were used to shape the strategic objectives presented in the strategy map on the next page.



STRATEGY MAP

STAKEHOLDER PERSPECTIVE



STRATEGY THEMES ●

THEME 1: RS&T IMPACT

Narrative: Maximise RS&T capability and capacity for NZDF through collaboration with domestic and international partners.

This theme focuses on increasing the value that RS&T delivers for NZDF by using collaboration to both extend the breadth of RS&T activity undertaken in NZDF and to increase the number of RS&T-derived outcomes produced for NZDF.

Excellence in RS&T advice and technologies, mission outcomes, and value from through-life savings are derived in part from the availability of quality RS&T. As RS&T demands inevitably grow within NZDF, a substantial gap will emerge where these demands are not supported by supply. Leverage through increased engagement with appropriate organisations will reduce the size of the supply deficit, and is consistent with a whole-of-government objective to reduce unnecessary duplication of effort.

Increased cooperation/collaboration will also increase impact through providing NZDF with the opportunity and tools to transfer knowledge and technology to and from other Government agencies, and through transferring intellectual property into the private sector to benefit the New Zealand economy and deliver revenue back to NZDF.

Essential for driving this theme is providing NZDF scientists and support staff with the skills and resources they require to: deliver quality RS&T outcomes; connect and collaborate with like-minded partners; and respond flexibly to the evolving needs of NZDF.

THEME 2: RS&T RELEVANCE

Narrative: Deliver RS&T outcomes that are 100% aligned with the strategic needs of NZDF.

Theme 2 revisits the mix of RS&T activities undertaken within NZDF in order to increase value derived from the RS&T investment, and to enhance the contribution to mission outcomes. These will be maximised when RS&T activities: (1) are closely aligned to strategic organisational requirements; (2) are balanced across all phases of the capability life cycle; and (3) include a strong future focus. We will achieve this through the provision of quality, actively-sponsored RS&T programmes that are strongly driven by current and future demands of NZDF capability and operations. Critical to the success of this theme are well-developed reciprocal connections between scientists, HQ NZDF, HQ JFNZ, and the three Single Services.

The present performance gap reflects inconsistent engagement of RS&T, where RS&T services are often engaged through an individual Service person's familiarity with RS&T resources. This relatively ad hoc approach impacts the balance, and in some cases the relative value of RS&T activities. A more considered approach to engagement of RS&T services will be developed, where demand for these services is driven centrally by those implementing Future35 strategy and the Defence Capability Plan, and RS&T projects are prioritised accordingly.

Action for this theme begins with auditing alignment of current RS&T projects and project sponsors with the strategic requirements of NZDF, assessing the balance of RS&T projects, and strengthening foresighting information flows between scientists and NZDF stakeholders. To ensure that maximum value is derived from limited resources, it is particularly important that projects are strongly linked to sponsors and carefully prioritised.

Key to this theme are scientists and support staff who understand how their work contributes to, and enables, the achievement of NZDF's strategic objectives.



THEME 3: RS&T PENETRATION

Narrative: Broaden the penetration of scientific objectivity into capability – and operations-related decision making.

This third theme is designed to extend the reach of scientific input into all conceivable facets of capability- and operations-related decision making. The addition of RS&T input from operations analysts and/or subject matter experts adds value to NZDF by increasing the likelihood that capability and operations will be fit-for-purpose, thereby improving mission outcomes and reducing risk. We will achieve this by providing high quality advice and technological solutions to enhance operations and to identify, acquire, improve, and life-extend capabilities.

While RS&T has the potential to increase rigour and improve outcomes for many capability – and operations-related decisions, historical penetration of RS&T into these decisions is inconsistent, with some (potential) customers unaware of the RS&T resources that exist within NZDF. We will need to change the way we operate to bridge the gap between this current state and the desired end state. This will require introducing processes to increase the consistency with which RS&T is applied to decision making. It will also require broadening our relationships to include all relevant stakeholders, and particularly NZDF branches with a “joint” focus – e.g. Joint Forces, Capability,

Strategic Commitments and Intelligence, and Logistics Command – in addition to the three Services.

We will achieve this through initiatives that are designed to promulgate RS&T advice. In the case of capability, this will include introducing a science ‘gate’ to all critical business cases. Relevant documents will be audited to ensure that RS&T penetration is 100%, where required. For operations, we will place an operations analyst at least two days per week at HQ JFNZ – with a view to increasing this commitment to full-time within two years – to understand in more detail where and how JF can benefit from RS&T support.

Essential for this theme is having sufficient RS&T capability and capacity to support the breadth and quantity of work that will be generated as RS&T becomes more integrated into NZDF’s work. Theme 1 will contribute significantly to Theme 3 in this respect.

BALANCED SCORECARD

CUSTOMER PERSPECTIVE

Objective

CP1: Deliver excellence in specialist military RS&T advice, services and technologies

Description

NZDF customers agree that RS&T delivers high quality outcomes.

Measure	Target	Initiatives
Overall satisfaction, derived from the Customer Satisfaction Survey	Customers express high degree of satisfaction with RS&T outputs (average ≥ 4.0)	<ul style="list-style-type: none"> Project managers use feedback from survey to identify areas of weakness and follow-up accordingly. Increased engagement with sponsors

Objective

CP2: Improving mission outcomes through RS&T

Description

RS&T is understood and valued throughout NZDF for the significant contribution that it makes to NZDF's ability to deliver on its mission.

Measure	Target	Initiatives
Customer satisfaction survey. Customers indicate that RS&T contributions to capability and/or operations significantly enhance mission outcomes.	Average ≥ 4.0	<ul style="list-style-type: none"> Project managers use feedback from survey to identify areas of weakness and follow-up accordingly. Increased engagement with Capability Branch and JFHQ

FINANCIAL PERSPECTIVE

Objective

FP1: Maximise capability through-life savings

Description

Use RS&T to increase the value derived from capabilities through improving acquisition decision making, and increasing the utility and lifespan of existing capabilities.

Measure	Target	Initiatives
Value/savings accumulated across projects.	5% increase in savings per annum	Develop robust techniques for objectively determining savings/value of RS&T project outcomes.

Objective

FP2: Pursue commercial revenue within boundaries.

Description

Maximise commercial revenue without significantly affecting the capacity of RS&T to add value to NZDF capability and operations.

Measure	Target	Initiatives
Revenue from licensing agreements.	10% increase in revenue per annum.	Work with partner organisations to transfer DTA technologies to the private sector.

INTERNAL PROCESSES PERSPECTIVE: RS&T IMPACT

Objective

IP1: Intensify engagement with defence and non-defence organisations

Description

Develop new relationships with external organisations that are designed to increase outcomes from RS&T.

Measure	Target	Initiatives
Level of effort, measured in hours, that includes external collaborators	50% by 2019	<ul style="list-style-type: none"> • Sign into CBR MOU • Strengthen existing collaborations and identify new opportunities

Objective

IP2: Leverage for RS&T capability and capacity

Description

Develop relationships with organisations that will increase the level or breadth of support that can be offered for NZDF capability and operations.

Measure	Target	Initiatives
Level of effort, measured in hours, that is dependent on collaboration	10% increase year-on-year	<ul style="list-style-type: none"> • Develop programmes of collaborative work with complementary RS&T organisations. • Identify and capitalise on burden-sharing opportunities.

Objective

IP3: Robust technology transfer capability

Description

Work with other organisations to increase the sophistication of NZDF's technology transfer capability.

Measure	Target	Initiatives
Number of licence agreements	Number of licences increasing year-on-year with ≥ 5 licences by 2017.	<ul style="list-style-type: none"> • In partnership with external organisations, develop technology transfer pathways for DTA technologies. • Develop an intellectual property strategy

Objective

IP4: RS&T support to and from other Government agencies

Description

Increase engagement with OGAs focused on outcomes that provide reciprocal benefits

Measure	Target	Initiatives
Number of programmes that provide benefits for OGAs Number of outcomes for NZDF benefitting from input by OGAs	$\geq 10\%$ of total programmes Increasing across years	Develop new, and strengthen existing, RS&T relationships with security-oriented OGAs and state-owned enterprises.

INTERNAL PROCESSES PERSPECTIVE: RS&T RELEVANCE

Objective

IP5: Balance the RS&T portfolio

Description

Redistribute the level of RS&T effort so that it is more evenly spread across all stages of the capability life cycle.

Measure	Target	Initiatives
Percentage of effort across capability life-cycle stages	30% In-service 30% Acquisition 30% Futures	Review current projects/programmes and work through DSWG to restructure as necessary.

Objective

IP6: Align current RS&T programmes to reflect NZDF needs

Description

Ensure that all programmes are directly relevant to the current or emerging needs of NZDF.

Measure	Target	Initiatives
Alignment of projects with the Defence Capability Plan	100%	<ul style="list-style-type: none"> Portfolio analysis of S&T projects versus DCP Identify and secure sponsors for all non-sponsored and "core" projects
Percentage of sponsored projects	100%	

Objective

IP7: Shape future-focused RS&T programmes through foresighting

Description

Ensure that future-focused projects reflect areas of emerging need for NZDF, as identified through future-watch and foresighting activities.

Measure	Target	Initiatives
Percentage of core projects aligned with foresight outcomes to unaligned projects	70%	<ul style="list-style-type: none"> Review future-focused projects to ensure they reflect areas of emerging need and restructure if necessary. Develop an HQNZDF-sponsored future technologies charter for the purposes of monitoring emerging and disruptive technologies and identifying new core projects.

INTERNAL PROCESSES PERSPECTIVE: RS&T RELEVANCE

Objective

IP8: Inject science advice into all capability decision making

Description

Develop processes to ensure that science rigour is used to assist NZDF decision making wherever possible.

Measure	Target	Initiatives
Percentage of capability projects, where relevant, receiving RS&T input	100%	<ul style="list-style-type: none"> Ensure 'science gate' is in place for all relevant processes/documents. Audit to ensure gate is being applied correctly.

Objective

IP9: Targeted risk mitigation

Description

Use RS&T to reduce NZDF's exposure to risk.

Measure	Target	Initiatives
Number of RS&T hours related to capability definition and acquisition	Increasing across years	DTA contribution to business cases for capability decision making.

Objective

IP10: Frank and independent advice for military operations

Description

Candid RS&T advice, free from constraints imposed by chain of command, is provided to assist operations.

Measure	Target	Initiatives
Number of RS&T hours informing operations	10% of total DTA hours	New OA positions in Wellington with at least one based at HQ JFNZ.
Number of hours on deployments and field exercises	10% increase year-on-year	



LEARNING & GROWTH PERSPECTIVE

Objective

LGP1: Attract, develop, and retain the best people

Description

Ensure that RS&T personnel have the opportunities and resources that they require to deliver the best possible outcomes for NZDF.

Measure	Target	Initiatives
Staff satisfaction score	Average satisfaction increasing or stable and above 3.5 on a five-point scale	<ul style="list-style-type: none"> • Increase focus on professional development, including external engagement, using PDP process • Provide new professional development opportunities • Identify suitable work and incentivise staff for publication
Average number of professional development days per FTE	Increasing across years	
Number of external publications	Increasing across years	
Percentage staff retained at year's end	≥ 90% per annum. Stable or increasing.	

Objective

LGP2: Shape S&T capability to meet changing needs

Description

Ensure that NZDF has the correct RS&T skill base and that it evolves to meet NZDF's changing needs.

Measure	Target	Initiatives
Biannual capability gap analysis	Zero gaps	Multi-criteria decision analysis

ALIGNMENT WITH NZDF'S FUTURE35 STRATEGY ●

There is a strong degree of alignment between NZDF's FUTURE35 Strategy and the RS&T Strategy. Nine of the eleven FUTURE35 strategic objectives are supported by objectives under the RS&T strategy.

FUTURE35 Strategy	RS&T Strategy
S1 Relevant and sustainable joint force elements able to conduct operations and prepared for contingencies	<ul style="list-style-type: none"> • Frank and independent advice for military operations • Inject science advice into all capability decision making • Align current RS&T programmes to reflect NZDF needs • Leverage for RS&T capability and capacity • RS&T support to and from other Government agencies <p>RS&T advice and support for operations and capability, leveraged through partnerships including OGAs, contributes to NZDF's ability to mount a JATF.</p>
S2 Evolving military capability to meet future threats	<ul style="list-style-type: none"> • Shape future-focused RS&T programmes through foresighting <p>These programmes will develop the RS&T skills and knowledge necessary to inform the acquisition and support of future capabilities.</p>
S3 Excellent organisational performance supporting the Defence Force operations	<ul style="list-style-type: none"> • Maximise return on RS&T investment <p>Creating efficiencies and increasing effectiveness by using RS&T to inform the acquisition of new capabilities and enhance the function of existing capabilities. Commercial revenues from technology transfer provide a dividend from RS&T investment.</p>
W4 Train for operating in a Joint, Interagency, and Multinational (JIM) environment	<ul style="list-style-type: none"> • RS&T support to and from other Government agencies <p>Supporting the technical basis of inter-agency cooperation.</p> <ul style="list-style-type: none"> • Align current RS&T programmes to reflect NZDF needs <p>Ensuring that RS&T programmes meet the current (and future) needs of NZDF, including command and control.</p>
W5 Integrate the Defence Force	
W6 Apply foresight to capability development	<ul style="list-style-type: none"> • Shape future-focused RS&T programmes through foresighting <p>These "future-focused" programmes will directly inform the definition, acquisition, and support of new capabilities.</p>
W7 Invest in the Defence Force capability	<ul style="list-style-type: none"> • Pursue commercial revenue within boundaries <p>Returns from licencing agreements provide a modest revenue stream from technologies developed in the course of RS&T activities.</p>
W8 Enable the Defence Force to win on operations	<ul style="list-style-type: none"> • Inject science advice into all capability decision making <p>Expedite the acquisition of effective capabilities</p> <ul style="list-style-type: none"> • Frank and independent advice for military operations <p>Provide science advice to inform and enhance operations</p>
M9 Recruit and retain the right people	<ul style="list-style-type: none"> • Attract, develop, and retain the best people <p>Ensure that RS&T capability remains well-aligned with NZDF's current needs and evolves to meet future needs.</p>
M10 Equip our forces	<ul style="list-style-type: none"> • Balance the RS&T portfolio <p>Ensure RS&T supports capability throughout its lifecycle.</p> <ul style="list-style-type: none"> • Align current RS&T programmes to reflect NZDF needs <p>RS&T prioritised to maximise the value it adds to NZDF capability.</p>
M11 Optimise our infrastructure	

