

Review of Defence Procurement Policies and Practices for Major Capability Projects

April 2018

Helene Quilter
Secretary of Defence
Freyberg House
Wellington

24 April 2018

Dear Helene,

Review of Defence procurement policies and practices

Set out below are the findings and observations from the recently conducted review of the Defence Capability Change Action Programme (DCCAP).

Approach

As discussed and agreed, the review has been conducted on the basis of a detailed assessment of a range of documentation supported by a series of interviews. I have been supported in the completion of the work by Jeroen Bouman, Partner in PwC Consulting and Ben Wakely, Associate Director in PwC Consulting.

Conclusions

On the basis of what we have observed through research and discussions, we are of the view that the DCCAP process has addressed the structural, operations and information deficiencies of the previous system. We have no recommendations to make. We have, however, recorded some observations for Defence's consideration.

As a result of DCCAP, we believe that the capability management system now provides decision makers with a strong level of confidence and assurance to support informed decision making. There is no identified reason why decision makers cannot or should not have confidence or assurance in the information presented to them to support decisions.

Although still early in its life cycle, the foundations have been well established with a result of having delivered a system which has substantially changed and improved the acquisition process. The core components of the system together with the quality of leadership and culture operating within the new capability management system has demonstrably mitigated the risks associated with the process of military acquisition.

Summary of Findings

Overall we are of the view that the changes instigated over recent years have created a very strong foundation upon which decision makers can have confidence in the output of the process. We are satisfied that DCCAP and the new capability management system structurally and operationally address and mitigate the various risks inherent in major capability projects and provide a sound foundation for informed decision making.

The actions taken to date have made significant gains in the professionalisation of the Capability Framework. What is in operation today represents a substantial difference from, and improvement on, what operated prior to the establishment of DCCAP.

The Defence capability management system:

- is well led by aligned and motivated leaders;
- has a number of inbuilt checks and balances to mitigate risk;
- operates within a well-defined structure and governance regime;
- has clear delegations and accountabilities; plus
- is making strong inroads into embedding a new way of working within an environment that historically had challenges with transparency, alignment and resourcing.

While very good progress has been made to date, like every other system of this type, ongoing work will be required to further consolidate, refine and optimise the investments made to date. That work is well under way and providing good evidence of progress. The fact that work is ongoing does not in itself suggest a weakness and or frailty. It merely reflects a process of evolution and ongoing improvement.

In our experience, we see programmes of this nature comprising four key components being:

- Systems and Process;
- People;
- Culture; and
- Information.

These components represent the core foundations upon which papers are developed to support and inform decisions.

DCCAP has made very good progress within each of these components. As noted above it is recognised that work is ongoing across all these attributes. That is, in our view, a positive and will ensure a philosophy of continuous improvement.

In reaching these conclusions, we do recognise that the Capability Management System ('CMS') introduced under DCCAP is still relatively new and no acquisition has progressed through the entire process. The transaction life cycle of an acquisition can span many years. As a consequence there are a number of transition issues from the previously operated system to the current capability management system. These issues will require management to continue to ensure that as acquisitions are presented to Ministers for decision making that assurances can be given that what was transitioned across and or inherited has had the required systems and processes applied to ensure the robustness and integrity of what is presented.

Issues around Military Acquisition

There is significant evidence/experience internationally and domestically around the challenges and risks of acquiring military capability. It is against this background that there is considerable caution and hesitancy on the part of decision makers. That is entirely understandable given the history and associated public comment around what was seen as poorly scoped projects, poorly executed acquisitions, and an absence of fit for purpose interoperable assets.

It was in that context that we approached the review with an objective of ensuring that the problem definition and response established in 2015 through DCCAP was in fact capable of addressing and mitigating the risks.

In summary those issues, together with the system responses provided by/through the DCCAP process can be summarised as:

Inherent issues	System responses
<p>Novelty <i>When something is being tried for the first time, novelty or experimental risk is present.</i></p>	<p>Defence has now instilled a policy and a culture where the default position is to avoid solutions that are unproven, highly developmental and/or unsupported by a reliable evidence base.</p> <p>Lessons have been learned from past acquisitions and now there is a focus on off-the-shelf capability.</p>
<p>Uncertainty <i>Where a lack of data makes it impossible to predict significant project elements such as time, cost, or quality of performance against specifications.</i></p>	<p>To counteract the inherent levels of uncertainty in large capability projects, Defence has increased governance and oversight, including external board appointments and a stronger willingness to seek out and incorporate external advice.</p> <p>Defence has also increased the level of rigour applied to early analysis, through the Integrated Project Team ('IPT') structure experts throughout the capability management lifecycle being involved at an earlier stage and there is a developing body of guidance on whole of life costing ('WoLC'), forecasting, and more sophisticated reporting.</p>

	<p>But the most promising system response to uncertainty is the development of professional project managers and experts that are more capable and more prepared to manage and deal with risks and issues as they arise in a flexible way.</p>
<p>Complexity</p> <p><i>Where a project involves a type of capability that is extremely difficult to understand (for example weapon systems software or other innovative technology), the project becomes very difficult to manage. Projects involve further risks where multiple complex elements interface with each other.</i></p>	<p>Again, the IPT structure experts such as the Capability Integration Leads or Acquisition Leads are now being introduced at a more appropriate time to identify, mitigate and manage risks and complexities. Defence is already seeing the benefits of the integrated approach taken to managing capability projects with the entire life cycle in mind.</p> <p>The strength of the blended Ministry of Defence / New Zealand Defence Force ('NZDF') team is that Defence is also getting better use out of NZDF subject matter experts ('SMEs') as opposed to using the SMEs as general project management resources.</p> <p>The improving use of the experts on governance forums and use of external advisors including lawyers for commercial contracting supports the timely management of complex risks.</p>
<p>Interdependence</p> <p><i>Where requirements for interoperability across different service domains, and different alliances multiplies the number of factors outside the control of a project team.</i></p>	<p>There is an increasing desire across Defence to realise that 'we are not different', that there are significant benefits to securing the same off-the-shelf products purchased by our external key security partners.</p> <p>There is increased cooperation with our external key security partners and other New Zealand government agencies to ensure that capability definition is mindful of the broader needs of New Zealand in terms of interoperability.</p> <p>We saw evidence of Defence's ongoing efforts to leverage off capability requirements and purchasing intentions of our external key security partners to support the acquisition of common capability.</p>
<p>Resource limitations</p> <p><i>Where projects are provided with insufficient financial and human resources.</i></p>	<p>Under DCCAP there has been significant investment in increasing the amount of specialist project managers.</p> <p>Defence has also created a scale and risk tool to support better tailoring of risk management to the particular project. As a result of applying the scale and risk tool and strengthened governance, two major projects have not proceeded, due to identified resource constraints.</p>
<p>The gale of creative destruction</p> <p><i>Where the pace of industrial development, technological change, competition and corporate greed can manifest itself in risks such as suppliers going into liquidation, or providing misleading information on the quality and timeliness of outputs.</i></p>	<p>Lessons have been learned in previous acquisitions over the years and incorporated into due diligence processes to support mitigation of commercial risk.</p> <p>Due diligence is now structured to include a process which involves contacting referees and previous customers of prime contractors. This process includes site visits. The prime contractors for most large capability projects are well known to Defence as they are often established players. Defence will also look to what other countries have experienced.</p> <p>Also, once a sub-contractor component is of a sufficient size due diligence is carried out on that organisation as well.</p> <p>In each project, a senior person is also appointed to be present on the ground, off shore to manage the contract as milestones are being met.</p>

<p>Political constraints</p> <p><i>Where there is a tendency to overpromise, or narrowly focus on cost and schedule performance for political reasons.</i></p>	<p>Defence capital planning is seen as an exemplar in the public sector from the White Paper process through Capability Planning and Capital Planning. This process of converting strategy and policy into capital planning leads to much clearer conversations with politicians.</p> <p>There are also regular touch points with Ministers to support updated awareness of project progress.</p> <p>DCCAP has introduced increases in quality and consistency of reporting. Frameworks, process and oversight for risk management are being embedded. And, the professional teams of project experts combined with strengthened levels of governance are appropriate given the nature and scale of the projects.</p>
<p>Other commercial factors</p> <p><i>The comparative size and scale of New Zealand's defence expenditure, and our reliance on a constrained market of suppliers.</i></p>	<p>Competition is used as the main driver to maximise value among suppliers for each project. Capability requirements are also managed from the very start with a careful rigour to ensure that the process keeps the field of suppliers open for as long as possible.</p> <p>General feedback is that NZ negotiates hard on timing and payments, and that negotiating teams do a good job of making project constraints work. Overall feedback can be summarised as 'we don't have a lot of money, we do have a lot of scrutiny, but we also have nimble teams who are able to act at pace, which is a real strength'.</p> <p>There is increasing evidence that WoLC is factored in upfront and through-life support is being negotiated in parallel with the acquisition itself.</p>
<p>The timeframes</p> <p><i>The one-off, long-term nature of the projects.</i></p>	<p>The IPT construct and the use of project governance boards supports a level of continuity over the life of the project. If SMEs or Senior Responsible Owners ('SROs') are shifted during posting cycles or a key person leaves Defence, there are other team members involved to support continued performance.</p> <p>Defence has also established a system of processes, procedures, methodologies and guidance which is being codified and will support on-going ways of working and on-boarding for new team members.</p>
<p>Access to information</p> <p><i>An inability to access information on best practice for defence procurement from other countries.</i></p>	<p>As evidenced through the development of the International Exemplar 2020, Defence has embraced co-design processes to support best practice and continuous improvement. Defence now readily draws on in-house expertise, Defence staff, international experts, other government agencies, professional services firms and Defence industry representatives to support on-going development.</p>

In addition we also posed a number of questions that decision makers normally adopt when they are faced with making a decision such as:

- Has a strategic and operating need been established for this acquisition?;
- Have all (and what) options have been considered?;
- If so why this option?;
- What happens if I don't proceed with this?;
- Why now – can it be deferred?;

- How do I know I am getting value for money?;
- How are the acquisition, commissioning and operating risks going to be managed?

On the basis of the work we have conducted we are satisfied that DCCAP and the new capability management system structurally and operationally address and mitigate the various risks and provide a sound foundation for informed decision making.

In particular the new system seeks to normalise the process around the acquisition of military equipment to that adopted for similar large infrastructure projects in the public sector. There are lessons from what has been adopted within this system for long term capital planning that would benefit the wider public sector.

There continues to be a perceived imbalance of information and the associated moral hazard for “non-military” decision makers when faced with the information presented. The new capability management system systemises a rebalancing of the information and the integrity of the recommendations presented.

It does not, of itself, make the decision any easier for those required to make the decision. There continues to be factors outside the immediate capability management system processes around external macro factors such as fiscal constraints, geo-political and diplomatic issues and broader political strategies that impact on the decision. The new capability management system and its output recognises those factors.

Ongoing Focus

The system, while encouraging and providing a great basis for future leverage, will require the leadership team of both the Ministry of Defence and the New Zealand Defence Force to continue their efforts around the ongoing development and evolution of the systems implemented to date. All systems are dynamic and this one is no different.

In particular, the key themes identified below, all of which currently form part of the ongoing work programme, are critical in our view to the ongoing development and durability of the system.

People and Talent Management – Successful systems operate optimally when they have excellent people operating and leading them. Very good progress has been made to date.

This aspect of organisational development is an ongoing focus of the current management. Similarly the ability to attract and retain good talent will be a key differentiator.

We strongly support the efforts and focus of current management to position the system as being an exemplar of best practice.

Leadership – Organisations and systems do not operate in isolation of strong aligned leadership. The “tone at the top” and example set cannot and should not be under estimated.

The progress made to date creates an excellent framework for further development. The alignment between the Ministry and NZDF creates a unique example of the sum of the parts being far stronger than the individual components.

Close attention needs to continue to be made to succession planning for the current leaders so that what has been achieved does not get unduly impacted by a change in personalities and or behaviours of the current participants.

Culture – Key to success of any process and/or organisation is the nature of the culture that operates within the teams and people employed.

We are greatly encouraged by what we have evidenced and what we understand to be management’s ambition in this regard.

The ability to continue with an operating environment where transparency and integrity are a non-negotiable and where status and or seniority are not of themselves impediments to transparency are to be commended.

Quality of Information – Core to any process which results in decisions is the quality of the information that informs those decisions.

The progress made since 2015 is encouraging. That progress will continue to be built on and enhanced. We would fully support the continued focus on improving and refining the information and decision support tools.

I am available to discuss and or elaborate on any aspect of this report if required.

Yours faithfully



Sir Brian Roche KNZM

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Introduction

In New Zealand, the Defence portfolio consists of two state sector organisations: the Ministry of Defence and the New Zealand Defence Force (collectively referred to in this report as ‘Defence’).

This section summarises the background and purpose of this review of Defence’s procurement policies and practices for major capability projects and provides an overview of our findings.

A glossary has also been included in Appendix 1 to define key terms and acronyms.

Background

Previous recommendations on capability management

Prior to 2015, the Defence capability management system was viewed as needing investment to achieve a step change in performance.

A number of significant reviews between 2008 and 2015 highlighted some of the risks in the system and recommended a suite of improvements. Incremental improvements were made to the capability management system from 2012. The collective recommendations from the reviews (referred to in this document as the ‘87 recommendations’) provided the rationale to support a budget increase in 2015 to enable transformational improvements in Defence capability management.

The Defence Capability Change Action Programme

In 2015, Defence developed a programme of long-term change called the Defence Capability Change Action Programme (referred to as ‘DCCAP’) in order to systematically address the 87 recommendations.

DCCAP has now been underway since 2015. Working within the existing institutional and accountability frameworks outlined in Appendix 2, DCCAP has taken a wide-ranging approach to improving the management of defence capability, by addressing the whole system (i.e. from White Paper and concepts through procurement to introduction into service and ultimately disposal).

Ultimately, the end goal of DCCAP was to implement significant enhancement to the Defence capability management system including people, processes and supporting infrastructure to create an international exemplar in capability management.

Purpose of this review

The progress of major capability investments require Ministers and Cabinet to make significant spending decisions on a regular basis. Where there are delays, or where decisions are deferred, this can have costly ramifications for capability projects.

A number of different factors influence decision-making at any given point in time, many of which are outside the ambit of Defence such as geo political, diplomatic or political preferences.

The terms of reference for this review focus on the progress of DCCAP, the development of the capability management system for major capability projects, and the question of whether Defence is able to provide confidence and assurance through the new capability management process to support, and inform, decision-making.

Overview of findings

Strong leadership

Under the leadership of the Secretary of Defence, the Chief of Defence Force and Vice-Chief of Defence Force, we have seen a significant improvement in the capability and capacity of the Defence capability management system. That leadership has established clear expectations, implemented delegations and empowered staff to address the failings encountered prior to 2015. In particular, they have set a ‘tone at the top’ around integrity, accountability and excellence. We have seen significant progress towards the development of an integrated system driven in a disciplined way out of DCCAP. And, from a systems

perspective, we support the substance of what the leadership has given effect to. As with any major infrastructure procurement project or portfolio there will always be risks to manage, and there will always be unforeseen risks that are outside of the control of even the best laid plans. Through DCCAP, the leadership is establishing a strong foundation for the on-going management of risk to support the confidence and assurance required by decision makers.

Creating an integrated system

While these changes will continue to evolve, the signs of what has been achieved to date are positive. Governance has been strengthened, decision and process support tools have been established, and integrated teams have been set up with a blended mix of New Zealand Defence Force ('NZDF') and Ministry of Defence ('Ministry') staff, and a strong mandate to perform.

As a result, business cases have improved, external perspectives are embraced (and are now a core part of risk management), there is a culture that supports accountability, and the processes are codified and more integrated across both the capability management lifecycle and the Defence organisations operating within it.

Confidence and assurance

For decision makers, capability projects raise all the normal questions inherent in any major infrastructure project:

- Why – has a need been established?
- Have all options (to meet that need) been investigated?
- What were the criteria used to assess the options?
- Why was this “one” selected?
- What happens if I don't do anything?
- Why now – can a decision be deferred?
- How can I be confident of value for money?
- Is this “one” fit for purpose?
- What are the risks of procurement and commissioning and how are they going to be managed?

The new ways of working that Defence is establishing and codifying through DCCAP systematically seek to analyse and accurately answer these questions in an integrated and transparent way.

Increased governance and accountability, and the on-going involvement of a range of professional experts across the process are just a couple of examples of the types of changes Defence has introduced to strengthen support for risk management and integrated decision making.

A stronger capability management system may not make these significant investment decisions any easier, but it should provide a level of confidence and assurance in the work carried out to get to a recommended position and the increased management of risk.

Further efforts are required to embed and sustain the changes

While the early signs are promising, change of this nature is challenging. Common reasons why major change efforts fail include: insufficient resources, declaring success too early, or employees resisting change or senior management not supporting change.

Resourcing

Further resources (both human and financial resources) and dedicated work will be required to:

1. sustain the changes introduced through DCCAP;
2. ensure these become embedded in both organisations' ways of working; and
3. realise the benefits relating to improved outcomes in capability management.

People and culture

The quality of people and the culture they work within are critical to the success of any organisation. It is recognised by current leaders that the realisation of improved outcomes is reliant on people at all levels of both organisations, from leadership right down to the project managers, practitioners and subject matter experts.

Strong and consistent leadership is one of the success factors that has enabled Defence to achieve as much as it has through DCCAP to date. Continued leadership, and familiarity with programme objectives, is needed now more than ever to oversee a phase of embedding change.

Defence will also need to continue to invest in the people working within the capability management system to support retention, succession planning, training, challenging, upskilling, and exposing people to the right experiences. People will need to be an on-going focus.

Culture is often described as 'the way we do things round here' or the glue that binds an organisation. Defence has done an excellent job so far of bringing both organisations along on the DCCAP journey using co-design methodologies to underpin any design change. A blended culture now exists across the capability management system, with an operating environment that promotes transparency and integrity. Continuing to foster core cultural traits such as accountability, risk management, continuous improvement and change management are essential for future success.

Continuous improvement

Throughout DCCAP, Defence has built on a culture of continuous improvement to identify areas where change is required and introduce an appropriate design process to support improvements.

As we carried out this review, it became evident that the Defence management team were well aware of areas where there were gaps and where continuous improvement and further learning was required. We have summarised Defence's insights throughout this report. The main areas where continuous improvement efforts are required include:

1. ***Setting a new roadmap for each of the core functional areas beyond the 87 recommendations*** – The challenge now for Defence is moving beyond the 87 recommendations to further develop core functional areas in a way that has line of sight to the International Exemplar 2020. For example next steps in finance and procurement, as well as project, programme, and portfolio management.
2. ***Dedicating more time on portfolio management*** – Increased time spent at the portfolio level will help to strengthen risk management, resource management and portfolio dependency management. With intimate knowledge of the portfolio, Defence can hire and train the right staff in time, or make the appropriate trade-offs required if slippages in cost or time occur, or if resourcing is required on important initiatives.
3. ***Developing a way of managing dependencies and enablers*** – The big challenge for dependency management is that the majority of these sit outside the definition of the capability portfolio. Defence should give more awareness and attention to projects classified as enablers or dependencies.
4. ***Industry engagement*** – There is real merit in examining the industry engagement process between project initiation and the release of a tender. Further work is required to support more flexible and dynamic industry engagement approaches and how these could be used to best effect.

Some of the other known outstanding gaps include:

- 1. *Posting cycles*** – Developing a military career model to support Capability Branch, which can create greater continuity by retaining leaders and subject matter experts (SMEs) within staff in Capability Branch for much longer than the typical current posting.
- 2. *Integrated performance management*** – Developing clear performance management frameworks for blended teams, where there are two employers and two managers.
- 3. *Access to early funding*** – Working with The Treasury to determine a mechanism for unlocking funding earlier in the project lifecycle.
- 4. *Mentoring*** – Implementing a mentoring support function for project managers and procurement teams, including specific access to project management and procurement experts.

Report approach & structure

This section provides a short explanation of some of the core challenges of the review, and the key aspects of our approach to guide the reader.

Core challenges

The test of the new Defence capability management system will be the extent to which it mitigates and manages the problems that have afflicted major Defence procurements in the past such as exceeding time and budget, delivering lower levels of capability within the budget, and acquiring capability that does not function at the intended level. The reality is that the typical major Defence procurement has an overall length of about a decade between initial planning and full introduction into service. The new system developed under DCCAP has therefore simply not been in place long enough to be properly tested across a number of major capability projects.

Our approach

Reflecting the challenges outlined above, we have taken the following overall approach:

1. Analyse the critical components of the new Defence capability management system being put in place by DCCAP.
2. Define the problems to which major Defence capability projects are typically prone.
3. Assess, at a system level, the extent to which the new capability management system (as designed) is likely to address the major problems.
4. Assess the available evidence for improvements in practice arising from the new system as it comes into effect.
5. Draw conclusions as to the effectiveness of the programme to date, further actions required and the likelihood that the new system will pre-empt and/or better manage the major problems identified.

Activities

In order to inform the review, we have undertaken the following activities:

1. Interviews with a selection of individuals involved in various capacities in the Capability Management Framework, including: Executive and senior management, Capability sponsors/owners in Single Services, DCCAP Programme Manager, Treasury, Defence Industry.
2. Small focus groups with Project governance board members (a selection of internals and independents), and practitioners (a selection of IPT Leaders, Domain Directors, IPT Leadership members).
3. Review of key DCCAP documents and key elements of the Capability Management Framework.
4. Review of a selection of governance reports at a project, programme and portfolio level.
5. Review of any materials that provide some form of leading indicator on the overall effectiveness of the new system (including culture and pulse surveys and external reviews of specific projects).
6. Specific investigation of up to three projects.

The evolution of the Capability Management System

This section identifies what has changed within the capability management system compared to 2014, with particular focus on analysing the critical components introduced through DCCAP.

Prior to DCCAP, 2015

Anecdotal evidence we received throughout our review helped to put in context just how fragile the capability management system was prior to 2015. At the time, the Ministry had eight, long serving permanent Project Directors. Individuals held all the intellectual property, with significant key person risk. The projects were entirely dependent on the skill and ability of the Project Director.

Problems revolved around a lack of integration across the capability management lifecycle. In the acquisition phase, Project Directors treated projects as discrete functional activities rather than part of an integrated system. Interviewees we spoke to from the NZDF said that projects on delivery completion were just ‘chucked over the fence’ by the Ministry. Prior to 2015, project management oversight was light, there was little or no consistency of project management systems or processes and no standard reporting, and no integration across the capability lifecycle.

Progress against previous recommendations

Defence used the 87 recommendations received through external reviews to develop a work plan that provided the foundations of DCCAP. To date, Defence have delivered the following two phases of DCCAP:

- 1. July 2015 – 2016** – Set-up the foundations of the programme, and developed a vision of the future of capability management in New Zealand, established priorities for the programme, and progressed issues relating to system integration.
- 2. October 2016 – March 2018** – Worked on the practical delivery of the capability management system as envisaged in the 87 recommendations and the vision for the future set out in phase 1.

As at March 2018, Defence had developed and delivered 80 of the original 87 recommendations.¹ The critical components being delivered through the change programme are examined in more detail below.

Vision and leadership

The International Exemplar 2020

As part of phase one of DCCAP, Defence created a vision for the future of capability management in New Zealand and called it *the New Zealand Capability Management System: An International Exemplar* (referred to as the ‘International Exemplar 2020’).

Defence created the International Exemplar 2020 as part of a co-design process involving Defence staff, international experts, other government agencies, professional services firms and Defence industry representatives. It sets out Defence’s blueprint or future state for the capability management system based on lessons learned and any international best practice available at the time.

The International Exemplar 2020 goes beyond the 87 recommendations, describing Defence’s ambition for an end-to-end, integrated capability management system, with strong governance and executive oversight, underpinned by clear policies and processes, strong professional expertise and skills, a culture of risk management, and a collaborative relationship with public and private sector partners.

¹ DCCAP – Programme Definition Document (March 2018 Update)

Leadership

Defence has expanded and strengthened its leadership and management team across the capability management system. The leadership structures have a strong focus on risk management oversight, and assurance as well as a commitment to the overall vision. DCCAP has been led from the top through the Secretary of Defence, the Chief of Defence Force, and the Vice Chief of Defence Force and strong management in the second tiers.

Observations - Vision and leadership

Roadmap to the International Exemplar 2020

The International Exemplar 2020 continues to provide a strong strategic vision, clarity of purpose and a high level of ambition for capability management in Defence. We consider the document as a great example of what is achievable even where there are difficulties in accessing information from other jurisdictions on best practice.

Defence will need to continue to develop core functional areas in a way that has line of sight to the International Exemplar 2020.

DCCAP has introduced real change and has tackled, and largely delivered, on the intent of the 87 recommendations as well as making real progress towards the International Exemplar 2020. We now consider that it would be worthwhile, on top of efforts to embed the current DCCAP changes, to further refine a roadmap in each of the core functional areas. Core functional areas include procurement, finance, portfolio management and risk management, and the refinement of decision support tools to push for further improvements in both the short, medium and long term.

Leadership

Strong leadership is one of the success factors that has enabled Defence to achieve as much as it has through DCCAP to date. Continued leadership, and familiarity with programme objectives, is needed now more than ever to oversee a phase of embedding and sustaining change and realising continuous improvement.

Excellent progress has been made on this aspect of DCCAP.

Governance and oversight

Portfolio, programme and project governance

Under DCCAP, Defence has revised its governance structures and established new arrangements in November 2017.

The overall responsibility for the capability portfolio sits with Capability Governance Board ('CGB'). It is co-chaired by the Chief of Defence Force and Secretary of Defence, and it meets monthly. The key role of CGB is to provide strategic governance of the defence capability portfolio, and manage the shared accountabilities for whole-of-life capability management.

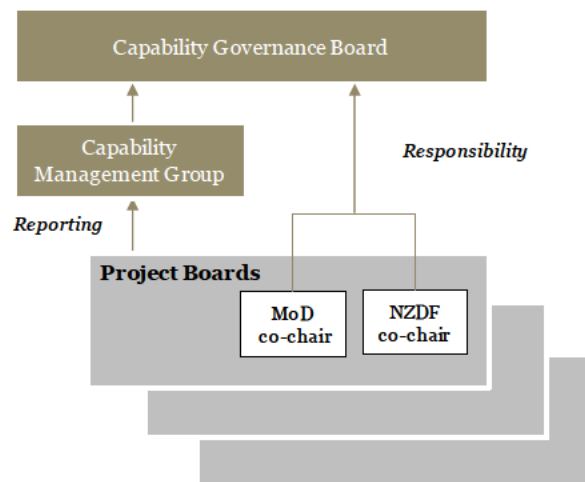
The CGB acts as an escalation point for any operational risks and issues that threaten the successful delivery of the portfolio. It also acts as the final internal review/approval authority before any investment requests are delivered to Cabinet for Ministerial approval.

Reporting to CGB is the Capability Management Group (CMG). CMG is responsible for providing assurance to the CGB on operational portfolio management, including oversight of the annual prioritisation of projects with a whole-of-life cost ('WoLC') of less than \$15 million. It is focussed on operational management activities, such as risk management, coordination of resources, achieving delivery outcomes, monitoring and reporting, to allow the CGB to focus on strategic portfolio governance. CMG also meets monthly. The CMG supports senior responsible owners ('SROs') by acting as a point of escalation for all in-flight projects.

Importantly, both CGB and CMG fulfil project/programme governance responsibilities in addition to portfolio governance duties.

Project governance

Figure 1 – Project Governance



A key deliverable of DCCAP has been to strengthen project governance and executive management oversight. Defence has established Project Boards for all capability projects. Projects with a WoLC of greater than \$15 million have either a dedicated Project Board or a Common Capability Project Board. Project scale and risk determines the type of Project Board allocated.

Ten dedicated Project Boards have been established covering 14 projects. Major projects not reporting to a dedicated Project Board are governed under one of four Common Capability Project Boards. NZDF and the Ministry co-chair all Project Boards. In addition, most Project Boards include an external member providing an independent perspective and an additional source of challenge.

Prior to the establishment of Project Boards, the Capability Steering Group ('CSG' the predecessor to the 'Capability Management Group') provided executive oversight of projects. CSG met for only six hours per month and covered around 30 projects.

Under the new model, Project Boards and Common Capability Project Boards meet regularly each month. This equates to a marked increase in executive oversight for each project and allows more time for deep dives into areas critical to project success.

Observations – Governance and Oversight

Our observation is that the introduction of project boards provides a level of real and meaningful governance, and the involvement of independents provides the external scrutiny and balance of expertise needed to support project teams.

A developing forum

The respondents we spoke to at both the governance level and the practitioner level indicated that the governance / project management relationship was an evolving one that was highly dependent on the relationships involved (including the co-chairs and the Integrated Project Team Lead). This would be analogous to a CEO / board relationship in the private sector, where again the relationship is of vital importance. As project boards continue, it is worth constantly considering the board appointments as much for the tone of the relationship as the level of subject matter expertise candidates might bring.

The most effective project boards are using the governance meetings as a forum to explore project risks and issues and to support Integrated Project Team leads with the 'problems keeping them up at night'. We believe that there is merit in on-going mentoring and specific training for Integrated Project Team leads and those who might be new to governance roles, to support them in understanding the purpose of the relationship and getting the most out of the forums.

Taking time to consider the portfolio

For good reason, there is a lot of governance and executive level focus on high-value projects. However, in our view more dedicated time should also be focused on 'getting to the balcony' to review portfolio risks and resourcing and dependencies across both the Major and 'Minor' projects.

Increased time spent at the portfolio level will help to further strengthen risk management. Large capital projects are measured in decades, not years. Defence have time to react. With intimate knowledge of the portfolio, Defence can hire and train the right staff in time, or make the appropriate trade-offs required if slippages in cost or time occur, or if resourcing is required on important initiatives.

Further portfolio analysis and reporting is happening, an analytics team has been set up to provide insight into simple things like number of projects, financial value by domain, financial burn rate, not just looking at individual projects. This trend needs to continue. This would require further investment but would, we believe, result in real returns.

Enablers

Research carried out in 2017 on Defence's dependencies identified around 200 active dependencies for major projects. However, the big challenge for dependency management is that majority of these sit outside the definition of the capability portfolio.

Defence should give more awareness and attention to projects classified as enablers or dependencies. For example, the delivery of high-value capability such as the Future Air Surveillance Capability or the Frigate Systems Upgrade are both dependent on network domain projects that deliver the means to communicate safely (such as Cyber security). There are others that are reliant on Estate projects.

It is currently unclear how capability projects that are reliant on progress of enablers resolve these dependencies. There seems to be a mix of issues that need addressing, including:

1. Making the most of the current mechanisms available to address dependencies (i.e are appropriate member of the estate or CIS or other enabling functions involved at the right level in governance boards to support the right decisions being made across the organisation?)
2. Developing processes for project teams and project boards to raise risks outside of the project to support resolution in a timely manner (this is touched on in more detail below)
3. Increasing maturity of processes and procedures across other portfolio areas, eg estate and CIS, to support capability outcomes.

Integrated Project Teams

One of the critical changes Defence has introduced through DCCAP has been the design and implementation of Integrated Project Teams ('IPTs').

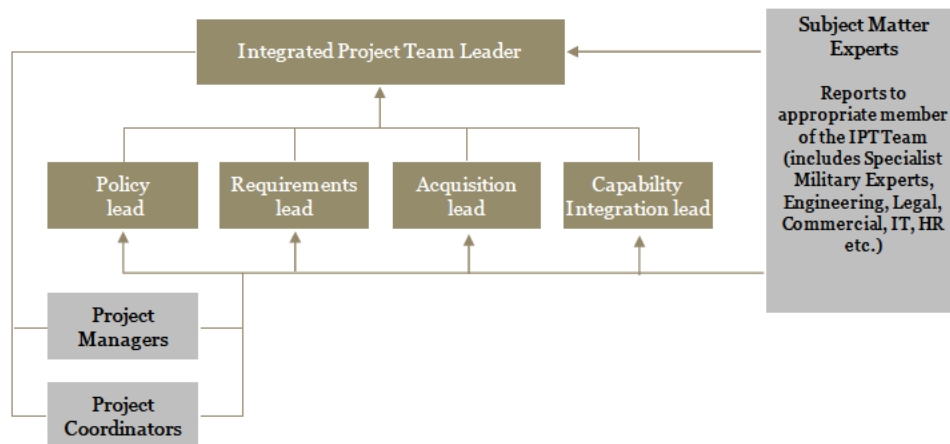
IPTs are established for major projects with approval to initiate, depending on risk and scale. The IPT is then responsible for all elements of Capability Definition, Acquisition and Introduction into Service. They are formed with the specific purpose of defining, developing and delivering military capability.

IPTs are multi-disciplinary and are led by a dedicated resource, providing a single point of accountability for the success of the project. The core roles within an IPT are described below:

1. **IPT Leader** – provides leadership and clear accountability within a project team, and also provide a level of expertise with experience in planning;
2. **Project managers** – provides expertise in scheduling, risk management, and financial management;
3. **Acquisition lead** – provides expertise in commercial management;
4. **Capability integration lead** – supports a more integrated approach to the organisational changes required to integrate capability into service;
5. **Requirements lead** – supports an evidence-based approach to understanding capability requirements to enable more effective commercial practices and capability integration;
6. **Policy lead** – provides assurance of ongoing strategic alignment of investment choices against policy objectives

In addition to the core team, a range of internal business partners from across Defence and subject matter experts support the IPT leader.

Figure 2 – IPTs



Project Boards hold IPT Leaders to account for the delivery of the project in line with a formalised charter. Previously, there was no single point of accountability for project delivery, and the four disciplines set out above were functionally separate and operated in a linear fashion. By way of example, Acquisition Project Directors were generally only involved once Cabinet had approved a detailed business case, and NZDF Project Managers were only appointed to manage integration of capability at the point of delivery.

Observations – Integrated Project Teams

Perceived benefits of IPTs

As the IPTs were only introduced in February 2017, it is too early to tell just how effective they are in addressing some of the inherent risks and issues experienced in large projects. However, early observations and feedback from stakeholders suggests that IPTs are achieving some anticipated benefits including:

1. Increased project focus and accountability
2. Earlier involvement of key people and perspectives
3. Improved integration and collaboration between NZDF and the Ministry and the blending of skills
4. Earlier visibility of emerging issues with multiple perspectives available.

SMEs

Different IPT structures are used overseas, where larger teams are involved across the entire capability management lifecycle, and include other SMEs, such as industry experts bringing an additional consideration of aspects like WoLC. Defence have opted not to follow this approach, but it does raise the question of whether SMEs external to Defence are required to supplement a given project.

There are different types of SMEs that will be of use to the IPTs as a given project progresses. There are those SMEs with narrowly focused, highly technical expertise relevant to the specific capability, and those SMEs, like lawyers and process advisers required at a specific time.

Respondents' feedback was that Defence are good at picking the right time to engage with ad hoc SMEs such as legal advisers, and legal advice is the type of advice that IPTs can use on an ad hoc basis when they need it. However, in our view, depending on the project, there is a role for deep, narrow technical expertise embedded in an IPT to supplement the existing team.

Currently projects are reliant on SMEs posted from NZDF when, in certain circumstances, embedding an external SME on highly complex, high value projects may add significant value. Particularly if the SME has experience acquiring the specific capability or negotiating through-life support. Given the difficulties in finding a critical mass of people who have completed these projects before, this type of experience may come from offshore partners.

Further SME involvement is something that should be considered in more detail as part of the IPT structure review relating to Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance projects ('C4ISR').

Extracting the best out of externals

In the future, it is likely that the success of the IPTs will be dependent on the IPTs' ability to work well with, and extract the best out of, subject matter experts not involved in the team. We also expect this dynamic to increase as the complexity of technology increases. Defence should consider specific training and guidance for IPT members on how to get the best out of highly technical SMEs at the most appropriate time, as well as how to get the best out of the Project boards.

Roles and responsibilities

Defence has undertaken a lot of work in defining roles and responsibilities and this has been rolled out to all staff. Given the dual roles some of the governance and management staff play and some of the dual reporting roles the IPT leads have, this is an area to watch and review closely to ensure that any confusion is resolved quickly and appropriately. Roles and responsibilities will become particularly important when pressure is on in a large project – strong understanding of responsibility and channels during these times will be needed.

Roles and responsibilities also play an important role in offsetting the interplay with hierarchy within the Defence Force, particularly where it comes to making decisions on capability definition. Senior Responsible Owners will need to be chosen for their ability to influence in the organisation and empower IPT leaders should tension around roles and responsibilities arise.

Supporting infrastructure

Programme and Project Management

In 2014, the Ministry had no Project Management Office function and was not supported by the NZDF Capability Branch system.

Through the DCCAP, Defence established and invested in Programme and Project management functions within the NZDF Capability Branch PMO and Ministry of Defence Practice Office to support an integrated, collaborative way of working across the Capability Management System and to set the standard for delivery of major projects.

Specific programme and project management work includes:

1. Setting minimum requirements for resourcing and outputs relating to major projects
2. Revising standards and expectations for quality assurance linked to milestones
3. Updating expectations, templates and guidance for reporting to governance
4. Developing and refining the techniques, processes and artefacts required to deliver capability projects
5. Reviewing and refining the Continuous Improvement philosophy and practice
6. Setting the framework for professional development in capability delivery and P3O activities
7. Producing relevant training modules and training guidance
8. Reviewing and aligning operating policies to support major projects
9. Reviewing financial delegations and roles and responsibilities
10. Improving delivery mechanisms, tools and guidance available to project teams.

Portfolio management

Portfolio management was prioritised behind the perceived immediate need for project management support and assurance. Defence has now established a portfolio management function and has recruited additional resource to increase performance in this area.

Defence initially focused on financial and management control and has now hired specialist capability to develop analytics for reporting and have developed risk and dependency tools. Specific on-going portfolio work includes:

1. Benefits management
2. Resource management
3. Stakeholder management
4. Enhanced governance and management
5. Risk management
6. Capability impact assessments.

Observations – Supporting infrastructure

Duplication

Integration between the Ministry and the NZDF is challenging due to both the military/civilian dynamic, but also the need to accommodate and work across different organisational arrangements.

Many functions, such as the portfolio office, are shared to meet the specific demands of the organisations. To some extent, this is unavoidable due to the institutional arrangements, and we saw some evidence of Defence working to mitigate duplication through co-leadership and accountability in the form of Process Owners and Content Owners. However, on-going communication, joint planning and coordination should continue to be emphasised across the portfolio to ensure duplication and overlap in processes and functions do not become exaggerated over time.

Resource management across the portfolio and the organisation

The challenges of having two organisations needing to work together in an integrated way also makes resource management a difficult task. Understanding the on-going resourcing requirements of the suite of in-flight and upcoming projects across the portfolio, and how to fulfil and prioritise these requirements, is a particular challenge.

Defence's original intention was to maintain resourcing requirements for each project on an ongoing basis in Planview. Our understanding is that the system is set up to allow for the management of this type of information across the portfolio. However, based on the evidence we have seen, teams are only inputting workforce demand requirements at the Indicative Business Case stage, without updating, maintaining and managing this information in an on-going, disciplined way. This effects information on medium to long-term resourcing requirements.

While Defence has recently developed a workforce modelling tool to support an understanding of on-going resourcing requirements, further guidance to project teams around the use of Planview and more discipline in this area is required.

To support effective decision making on resourcing and priorities, Defence also needs to present accurate on-going information on resourcing needs and priorities at a portfolio level in a way that decision makers can action.

Resource management across the life of the capability

We have seen evidence of the work carried out at a project level to understand ongoing resourcing requirements when existing capability is disposed of and new capability is transitioned-in. Some of these considerations include the amount of anticipated time to transition-in capability, and the required training and staff needs, we question whether, and how, Defence translates this information into long-term recruitment and HR pipelines. How Defence manages resourcing requirements across the life of the capability, along with the other competing priorities across the organisation, needs further exploration to ensure value is maximised once capability is transitioned into service.

Decision support tools

There was some suggestion that decision support tools and systems were not being used as effectively as possible, which was hindering analysis at both the project and portfolio levels. This is commented on in more detail in next section in relation to systems.

Methodologies, guidance, tools and systems

Methodologies

Project, programme and portfolio management methodologies

Prior to 2015, there were no standardised methodologies, systems and tools across the capability management system. The introduction of the PMO / PO across Defence has driven significant improvement in this area. Defence now consistently uses Managing Successful Programmes (or ‘MSP’), and has developed and implemented a tailored version of the PRINCE2 model to standardise programme and project methodology. These methodologies have supported the establishment of governance and assurance processes, as well as tools and guidance to support the project teams as they navigate the stages of the capability lifecycle.

The approach to portfolio management is developing in line with the Management of Portfolios (or ‘MoP’) methodology.

Continuous improvement

To support the introduction of wholesale changes across the capability management system, Defence introduced continuous improvement methodology. Defence based its continuous improvement methodology on co-design, using a ‘build, test, review and improve’ approach.

Design teams were set up to design and implement DCCAP changes using interactive workshops, focus groups, and heavy involvement of Defence SMEs. Stakeholder consultation and review were also involved to support considered outcomes, and pragmatic and practical changes.

DCCAP documentation suggests that Defence will continue to use the continuous improvement methodology to support design and change into the future.

Guidance and tools

CMF On-Line

Defence has partially developed, codified, and is in the process of publishing operating procedures (guidance, policies, processes, and templates), known as the Capability Management Framework (or ‘CMF On-Line’) on a dedicated SharePoint site. This was an ambitious undertaking given the amount of content intended. Development of content remains an on-going, iterative process with some of the intended content still in-train. Training for all staff on the CMF On-Line is underway.

A suite of common tools and frameworks

In an attempt to standardise practice and provide best practice guidance, Defence has introduced common tools and frameworks across both the Ministry and NZDF, these include:

- 1. Benefit Management Framework** – involves a series of tailored process steps to identify, define, track, realise, and optimise benefits at both the initiative and portfolio level, includes step by step instructions and supporting tools and guidelines (including Benefits Realisation Plans).
- 2. Risk Framework** – outlines the structure and process to support the management of risk across the capability management system. For example, introduction of project boards, with specific risks associated with project management delegated to the IPT Leader for attention and action. IPT Leaders identify and manage these risks in accordance with the Risk Management Framework and when required, IPT Leaders escalate them to the Project Board, who has the option of further escalation to the CGB.
- 3. Risk management tools** – an example of the type of tool developed to support risk management, includes the ‘Scale and Risk Assessment Tool’, used to assess the scale and uncertainty of an individual project, and set expectations around project management structures and approach.
- 4. Capability Integration Framework** – used to support IPTs to effectively manage integration of new capability into service, includes:
 - **Core Technical Guidance** – such as: Capability Requirements, Safety Management, Integrated Logistics Support, Industry Engagement, and Capability Integration.

- **Support Guidance** – such as: Better Business Case Model, Commercial Practice, Operational Policy, Quality Assurance and Review.

5. Financial and resource management – tools and guidance include:

- A demand resource model to support the understanding of on-going resourcing needs.
- Financial management, such as guidelines to support month end processes and accruals.
- Forecasting guidance and tools, including a whole of life costing model, which supports estimates of ongoing costs such as ownership and operating costs.

Systems

The introduction of common systems further supports standardisation across the Ministry and NZDF.

Defence has now implemented Planview across both organisations as a central repository for data on all major projects. Where data is being entered into Planview, that information is used to support project and portfolio planning, reporting and tracking. IPTs are starting to use Finance One and SAP to interrogate finance data.

Defence has also introduced the Defence Document Management System, which is a common information platform established to act as a central repository for project documentation across both organisations.

CMF On-Line is also intended to support access to common standards and guidance for project management accessible across the capability management system.

Observations – methodologies, guidance, tools and systems

Agile methodology

As referred to previously in our comments around IPTs, the PMO / PO functions should continue to develop and pilot the use of agile methodologies and approaches across a project management context, procurement, and a business improvement context.

Agile methodologies are about collaboration, flexibility and adaptation in response to change. As the complexity of capability projects and the demand for information and analytics increases, the ability to respond effectively to these changes at both the project level and the organisation level will be important.

Agile methodologies could be used to strengthen Defence’s approach to capability management, procurement, and development of business intelligence and could supplement continuous improvement methodologies already in place.

CMF On-Line

While CMF On-Line is only partially complete, it represents a significant initiative from Defence, and one that should be commended given the amount of content developed, or being developed. Having a base level of reference material, guidance and tools in place to support each step of the capability management system provides Defence with a far more comprehensive manual than they have ever had before in this area.

Again, it is too early to tell exactly what effect this material will have on performance, but having in place clear, standardised processes and guidance is likely to support the type of long-term outcomes Defence is trying to achieve, such as increasing integration across the capability management system.

One of the challenges Defence will face, will be to ensure that published material remains up-to-date and relevant, and that processes and guidance are amended as any issues or required changes are identified. Defence should establish a regular review process to keep information up-to-date and improve the user experience.

Supplementing CMF On-Line

While CMF On-Line may encompass formal guidance intended to be used to support IPTs and other practitioners in navigating the system, there also needs to be resources available that provide practitioners with the stock of wisdom and experience that comes with years of working on large scale complex projects. This type of resource could take any number of forms, including mentoring, but given the amount of institutional experience Defence has developed, it would be worth capturing an extensive set of lessons learned from experienced practitioners and previous acquisition projects to provide practical insights for IPTs and support sound judgement in the future.

Risk management

A lot of risk management revolves around culture. As mentioned previously, the relationship between IPT Leaders and Project Boards is crucial to ensure there is transparency in risk management, and that governance forums do not become a compliance process.

'The Nimrod Review', which was an independent review carried out in the UK into the broader issues surrounding the loss of the RAF Nimrod MR2 Aircraft XV230 in Afghanistan in 2006, highlighted the importance of culture in risk management. In that situation, where the project lead was under immense pressure, dealing with a highly complex project with a significant price tag, the failure to transparently deal with risks led to on-going chain of events, which ultimately contributed to the Nimrod disaster

Risk management is more than just frameworks. If there is unwillingness to raise risks and issues as they arise, this can have dangerous consequences. We think the current structure and environment supports a strong risk management culture. However, we also see merit in on-going training and mentoring for both IPT leads and governance members to set expectations on the purpose of project governance, the role it plays in risk management, and how to get the best out of the forums. Defence should consult current governance members (both external and internal) and IPT Leads to work out what would be most effective to support and strengthen what is an evolving culture of risk management.

Risk management process outside of project control

There are risks within the control of the IPTs and the Project Boards and there are a number of other risks outside of the control of the project (such as dependencies). Currently, as far as we could see, there is no institutional understanding or agreement around how to deal with and escalate risks outside of the control of the project.

The project boards need to have confidence in these processes so they can focus on the risks they can control. Defence should consider developing and promoting a formal process for dealing with risks that are outside the control of the project and provide guidance and set expectations with both the IPTs and the Project Boards.

Disciplined use of project management systems

From the evidence we have seen and the feedback we received from respondents, Defence is not using its available common systems as effectively as it could be. For example, Planview has the functionality to be an effective portfolio management tool, but users see Planview as being too cumbersome and onerous to update on a regular basis. Teams are not updating information in Planview as projects / expectations change. Information gaps are leading to inaccurate information and reliance on other forecasting models and methods.

Defence should review the use of project management systems and the disciplined capture of information in a collaborative way with users to identify ways in which the process or the system might be improved to support improvements in outcomes.

Skills and experience

A lift in capacity and capability

Ministry of Defence Capability Delivery

With the benefit of investment from 2015, DCCAP has seen the former Acquisition Division within the Ministry transform from a boutique operation prior to 2015, to an organisation with a strong level of depth in professional skill and competency. The division, renamed Capability Delivery, has increased in overall size from around 20 permanent and contracted employees to 59 full time permanent employees with the hiring of core capabilities and particular professional skill sets.

During DCCAP, the recruitment of specialist project managers, project professionals and additional procurement, financial, and risk management expertise has seen the team responsible for major acquisition projects within the Ministry grow significantly.

The Ministry has created new supporting functions including:

1. embedding finance experts in projects to strengthen forecasting and financial management ability,
2. establishing project co-ordinators to support IPTs to strengthen reporting and risk management.

Of the 59 full time employees, 47 of these are 'project staff' (or anyone working within a project, including IPTs and Domain Directors). In terms of the average tenure, 42 employees have been with the Ministry for one year or less.

NZDF Capability Branch

The strength of the blended Ministry / NZDF team is that Defence is also getting better use out of NZDF SMEs as opposed to using the SMEs as general project management resources. Under the previous structure, resource constraints meant that NZDF SMEs often had to fill project management roles to support the basics.

Prior to 2015, NZDF personnel were seconded into Ministry Acquisition teams to support specific projects. Under DCCAP, NZDF staff remain as part of NZDF Capability Branch posted to specific roles whether on the IPTs or in support of IPTs. Defence is now working on resource agreements to support the arrangement between IPTs and NZDF line managers, when SME support is provided on a project.

Remuneration

Through DCCAP, remuneration bands have also increased to align with market levels for project management professionals.

Training

There has been a large investment in training, and this is expected to continue. For example, the Ministry Capability Delivery budget for training has increased markedly. Areas of specific training include general project management, contract management, business case writing, whole-of-life costing and forecasting.

Defence is now introducing a common training and development framework in combination with CMF On-Line to continue to lift expertise. Training programmes targeting staff working across both Capability Branch and the Ministry are underway.

Performance management

Defence has standard performance templates in place to measure performance, which are developing. Desired values, principles and behaviours have been defined and will be incorporated into job descriptions, recruitment processes and performance management processes for all Capability Delivery employees from the upcoming performance year onwards (i.e. following the performance review in July).

Observations – skills and experience

People

The quality of people and the culture they work in are critical to the success of any organisation, from leadership right down to the project managers, practitioners and subject matter experts.

Good people are hard to find and talent and resource allocation is critical. Defence will need to continue to invest in people working within the capability management system to support retention, succession planning, training, challenging, upskilling, and exposing people to the right experiences. People will need to be an on-going focus.

Posting cycles

As reviewers, we are not well placed to question decisions on prioritisation of NZDF resources between capability projects and front line operations. However, almost every interview we conducted involved some comment on the interruption, and management challenges that short-term posting cycles present for capability projects.

We heard examples of SMEs being posted to projects for only 7 months. In other instances, experienced managers talked of military rotation occurring just as an SME was mastering the role. When IPTs are set up to deal with all stages of a project, a loss in continuity can be highly disruptive.

The consensus from respondents was that capability projects would benefit from longer term specific postings to cover a project from the definition stage of the capability lifecycle through to introduction into service.

Defence needs to carry out further work to support a sustainable solution to the potential risk that posting cycles pose to optimal outcomes on capability projects.

Pre-training for NZDF SMEs

Respondents also commented on the level of training NZDF SMEs receive prior to starting a posting. Feedback suggested that more training could be provided prior to SMEs starting within Capability Branch, and that for some a move to project work can be quite a transition. Training received on the job was viewed very positively, but the suggestion is that pre-training is an area where SMEs could benefit greatly.

Commercial negotiation skills and New Zealand's advantage

General feedback is that New Zealand negotiates hard on timing and payments, and that negotiating teams do a good job of making project constraints work.

Some of the experienced negotiators we spoke to suggested that there was a tendency to underestimate New Zealand's value to international industry players, and that it was worth bringing all new negotiators up to speed on the relative strengths and commercial advantages New Zealand has. Suggestions were that New Zealand is a sovereign nation that is well respected in the market place. Doing a deal with New Zealand is good for big businesses as New Zealand is seen as a good credential, especially as they look to expand market presence with smaller nations. Awareness of our negotiation advantages is necessary for any staff playing an active role in the negotiations process.

Performance Management

Performance management is an area for improvement particularly as it relates to the blended team model. For example, IPT Leaders are placed in a unique scenario where they are directly responsible for project outcomes, but have to rely on NZDF line managers when it comes to managing NZDF SME performance. This is not an insurmountable obstacle and Defence is in the process of developing relationship agreements to support clarity in performance management. It is an area that should be monitored to ensure performance is optimised and underperformance is dealt with swiftly.

A focus on WoLC during negotiations

Something that needs continued focus during negotiations is an understanding of the equal importance of both the acquisition and through-life support. Despite the increased forecasting and organisational understanding of WoLC, and the increased communication around the need for consideration of WoLC, there are still question marks from some respondents on the focus during negotiations on the importance of the acquisition, to the detriment of arrangements for through-life support. This is an area where continued training and focus is required so there is absolutely no hint to suppliers that if they get an acquisition contract over the line, through-life support will follow.

We have seen recent examples of through-life contracts being negotiated at the same time and believe that this evidences a big step in the right direction. Equal credence needs to be given to both arrangements, negotiations should be carried out in parallel and both contracts presented at the same time with recognition and understanding of the interaction between both contracts (for example the interaction of warranty clauses). To support optimising value in defence contract negotiating, acquisition and through-life support must be carried out in parallel from the beginning.

Fostering experience and developing the pipeline

The capability management system is ultimately made up of people. Systems, processes and methodologies provide an excellent body of theory, but the biggest risk for Defence is a failure to find and retain the right people with the right skills to support the system working to best effect.

DCCAP has seen a marked increase in both capability and capacity, and while feedback suggests that the standard of job applicants continues to impress, it must be recognised that many of the current resources have only been in the job for a short time. Building experience and retention strategies will be important as part of the next stage of the change programme where Defence looks to embed initial changes and build on this platform to achieve its goals outlined in the International Exemplar 2020.

Options to increase experience, support retention and build the 'brand' include secondments with industry, secondments from industry into targeted roles, internal and external mentoring across both organisations for SMEs, on-going engagement activity, setting clear expectations, identifying development paths, and dealing with poor performance.

The importance of highly capable management resources should not be under-emphasised. Defence should be trying to identify those staff members who fit within the 'exceptional' bracket and taking steps to engage, train, foster, challenge, and grow these individuals with a view to a longer-term career path within the Ministry or Capability Branch.

Supporting continuity

The leadership demonstrated throughout DCCAP has been impressive from both organisations, but the enduring success of DCCAP changes will be equally dependent on the next generation of leaders. Also, given that the life span of these projects is over a decade, it is unlikely that resources will remain with the project throughout the life-cycle. Strong succession planning and identifying ways to support continuity across both projects and organisational change programmes is vital to mitigate key person risk. It will also be important to continue to ensure that people appointed to leadership positions have knowledge of, and interest in, capability, a commitment to the new capability management system, and a commitment to collaborative behaviour and working in partnership.

Culture

The continuous improvement methodology and Defence's general approach to change management during DCCAP has been well received throughout both organisations. There is large buy-in across both organisations. The idea of co-design has meant that staff have been largely supportive of change, with a general feeling that change has been 'done by us, not to us'.

DCCAP represented a large cultural shift for both organisations, and we understand there are still some pockets of push back across the capability management system, which is not surprising given the scale of change that has occurred. Defence does not want to run risk of declaring success too early in the change process, recognising that embedding the transformation is an important next step. Defence will need to find a happy medium between embedding the existing change and pushing for further improvement to the foundations DCCAP has put in place. Change management, further detailed planning, on-going leadership of the change programme, and involvement of staff at all levels, will be vital to ensure the continued success of the Defence's ambitions beyond the 87 Recommendations.

Industry and procurement

Prior to DCAAP, a number of reviews highlighted areas for improvement in the process and relationship linking Defence and Industry, core themes included:

1. **Industry and defence interface** – reviews identified the need for earlier engagement with Industry to inform and improve option setting and capability definition.
2. **Procurement processes and practices** – difficulties with Defence’s procurement practices were seen to be stifling industry involvement.
3. **Whole-of-life costing** – forecasting whole-of-life costs at key stages of the capability management process needed significant improvement.

Building relationships with industry

Both the Ministry and NZDF have put a lot of resource into improving Defence’s relationship with industry. Both organisations have established specific roles dedicated to working with, and supporting the Defence Industry.

Industry Days and other engagements are now part of every project schedule and Defence advertises these its own specialised portal and GETS. Projects teams prepare industry reports each month showing upcoming engagement, and industry engagement plans are a requirement as part of each procurement strategy paper.

The capability management system has also established steps both in the definition and delivery stages for the identification and assessment of opportunities to draw on the network of military partners and tailor a project’s procurement approach accordingly.

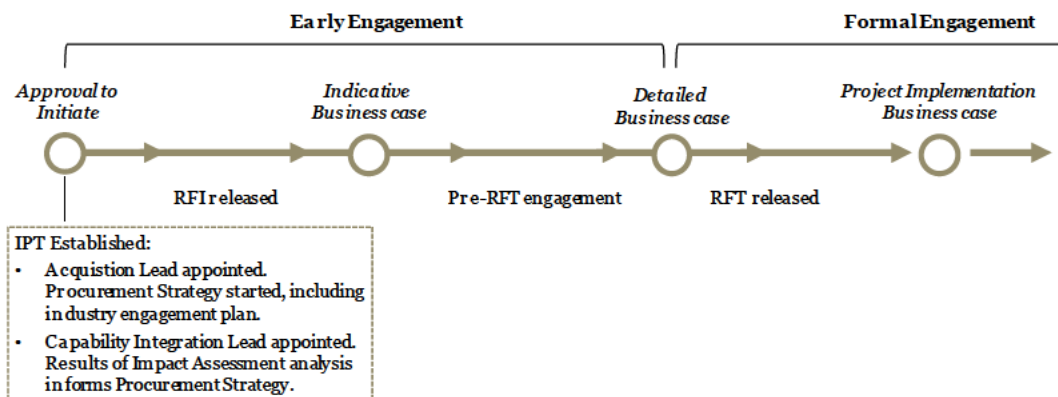
Procurement

Prior to the introduction of DCCAP, the Ministry’s engagement with industry only used to take place after the detailed business case was finalised when an acquisition director was appointed to lead the request for tender process. Early engagement with industry was limited.

The Defence strategy for engaging with industry titled, ‘Smart Customers and Smart Suppliers’, identifies early engagement as an area of opportunity and sets out how Defence intends to engage industry prior to request for tender stages.

The revised model for industry engagement, as part of the broader procurement process introduced through DCCAP, is illustrated at a high-level in the figure below.

Figure 3 - Industry engagement



After approval to initiate is provided for each project, an IPT is usually assembled. The IPT structure includes both an Acquisition Lead and Capability Lead, who support earlier, structured engagement with industry.

Projects are now required to have at least two touchpoints with industry prior to the finalisation of requests for tender. The earliest form of engagement is usually before, or immediately after, a formal request for information (which comes about prior to the finalisation of the Indicative Business Case). A second stage of engagement is then carried out before the Detailed Business Case.

Engagement is usually very structured and occurs through established forums and arrangements known as 'Industry Days'.

The main model Defence uses to drive value through procurement is competition. There are often only a small pool of suppliers for any given major capability project, so the IPTs are generally pretty particular about ensuring that options are not ruled out too early in order to maximise the pool of competing suppliers. Even once a project has gone through evaluation, Defence will still engage at least two suppliers on price to keep competitive tension.

Whole-of-Life Cost

Through DCCAP Defence has now emphasised a focus on understanding WoLC, and templates and forecasting models have been developed to support IPTs in applying WoLC information through capability planning, options development and procurement.

NZDF has set up a specific team tasked with providing guidance and expertise on WoLC across both organisations. We have seen evidence of project teams tracking WoLC throughout projects stages.

Defence has also developed guidelines and resources for industry on its approach and expectations around WoLC.

Observations – industry and procurement

Industry engagement

The sense we received from industry is that the general trend of Defence's progress under DCCAP has been positive. The feeling is that both organisations have made great strides from where they used to be.

However, industry felt that Defence could use engagement sessions or Industry Days more productively to get richer insight at an early stage. The Industry Days were likened to formal lectures instead of a forum for collaboration and workshopping of ideas and options.

We believe there is real merit in examining the industry engagement process between Approval to Initiate and drafting of the Detailed Business Case. There is no question that the current process is a huge improvement on the previous system, however we received feedback from multiple sources that questioned whether Defence's interpretation of the Government's Rules of Sourcing were too conservative. There was a feeling that IPTs are quite constrained in the way they go to market, what they can say, and how and when they talk with and engage industry.

Not talking to the market can be a disadvantage, especially if it means missing information early on in the process that could have been used to inform decisions. Internal acquisition people and processes can also hinder creativity as they are inclined to take a narrow approach to the interpretation of procurement rules, particularly as regards the issue of probity.

We would recommended talking to others in the public sector, as well as alternative procurement experts to support a better understanding of more flexible and dynamic industry engagement approaches. It would also be worth piloting alternative engagement approaches on relevant projects, in consultation with relevant experts to experience the benefits of alternative forms of market engagement.

WoLC

With the exception of the T-6C air trainers (which involved some up-front arrangements for through-life support), industry representatives felt there had been little evidence of WoLC cost being delivered in practice, and wanted to see more evidence of the focus on WoLC translating into practice.

We have seen recent examples of major projects negotiating through-life support at the same time as the acquisition, for example the NH90 Simulator. WoLC and through-life support is an area which is continuing to improve due to on-going focus. This trend needs to continue throughout both engagement with industry and contracting practices.

Information and reporting

Standardised reporting

Governance reporting has been standardised under DCCAP, with consistent measures provided for project performance against schedule, budget, resource, risks, issues, benefits, scope and quality. New financial metrics have been developed and added to project financial reports.

Reporting has improved, the progress of projects is more timely, and transparent with the introduction of project and programme boards, dual SROs, and there is evidence that Defence continues to engage with externals (including central agencies) and take on-board feedback.

Observations – information and reporting

Reporting, an evolving practice

Information and reporting support the quality of discussions, oversight and perspective.

There is a lot of guidance and standardised performance metrics for projects, however feedback from board members is that IPT Leads could benefit from further training on how to present the right information at the right level to the Project Board, so that Board Members can focus their attention on what matters. This is not a criticism of the current standard of reporting, it is a suggestion to strengthen and support an evolving practice.

The perception is that there is no magic formula for this, but that skills and support should be provided to ensure that IPTs can get the best out of the board relationship, in the same way a good CEO will develop a strong and constructive relationship with the board of a company.

Having standardisation in reporting is good, but flexibility also needs to be recognised for both the specifics of the project and the individuals on the board.

Price and timing

The current operating environment requires IPTs to put forward capability proposals at an early stage before there is strong certainty around core project information. These proposals then form the basis for setting price and scheduling expectations.

Given the level of information that is available at early stages of a project, the perception is that IPTs are doing a great job of getting good price and scheduling estimates. However, these early proposals are being used as a mechanism throughout the project to set expectations on price and timing, with IPTs receiving negative feedback if progress does not meet early estimations.

It is important to understand that the information available for each project is an evolving picture and that it can be counterproductive or force perverse types of behaviour from IPTs where too much emphasis is placed on early information. As long as there is a reasonable basis for changing information, we believe there is merit in considering formal opportunities throughout the project cycle to refresh project information without any negative impact.

Mechanisms for managing optimism bias should also be considered, particularly early on in the process where projects are only at a conceptual level.

Contextual information

There was also a general feeling that contextual information could be improved when reporting is being provided to Ministers on individual projects.

The main observation was that there is an absence of navigation tools, placing a given decision in context and illustrating how the decision links in with other projects and the overall progress of the Capability Plan.

Business cases

In general, the improvement in the quality of business cases as a result of DCCAP is something that was commented on by a wide range of respondents.

A couple of general areas for improvement that were touched on throughout interviews included:

1. Tying particular business cases back to the overall strategic vision, ensuring that there is a strong connection between the acquisition and the strategic vision.
2. Providing accurate information on counterfactuals and the cost of deferring a decision in relation to on-going operating costs and any other expected costs.

The inherent problems experienced in capability procurement

In order to review and assess the progress of DCCAP and the state of the procurement system for major defence equipment, we wanted to understand the common risks defence projects face. This section provides a short overview of the typical risks experienced on major Defence procurement projects. The risks are framed both from a global perspective and adjusted for New Zealand circumstances.

The common risks factors present in most Defence projects

The challenges inherent in the procurement of major defence equipment are well documented. Organisations around the world have tried on numerous occasions to perfect the management of risk on defence projects, only for problems to continue.

Multiple inquiries, reviews and audits involving a range of experts across jurisdictions have attempted to strengthen and perfect the various procurement systems and, while the policies, practices and formal structures continue to grow, successful delivery of universal objectives is still just as difficult to achieve on a consistent basis.

What makes the procurement of major defence equipment so difficult? International literature suggests a core thread of risk factors are present to a greater or lesser degree in most defence projects. These risk factors are called the 'seven deadly risks of defence projects', and include: ²

- 1. Novelty** – When something is being tried for the first time, novelty or experimental risk is present. For example, development of a new capability; creation of a new design or modification of an existing one; or introduction of a new contractor.
- 2. Uncertainty** – Where a lack of data makes it impossible to predict significant project elements such as time, cost, or quality of performance against specifications.
- 3. Complexity** – Where a project involves a type of capability that is extremely difficult to understand (for example weapon systems software or other innovative technology), the project becomes very difficult to manage. Projects involve further risks where multiple complex elements interface with each other.
- 4. Interdependence** – Where requirements for interoperability across different service domains, and different alliances multiply the number of factors outside the control of a project team.
- 5. Resource limitations** – Where projects are provided with insufficient financial and human resources, whether it is through budget pressures or cost ceilings, trade-offs in quality occur as a result.
- 6. The gale of creative destruction** – Where the pace of industrial development, technological change, competition and corporate greed can manifest itself in risks such as suppliers going into liquidation, or providing misleading information on the quality and timeliness of outputs.
- 7. Political constraints** – Where there is a tendency to overpromise, or narrowly focus on cost and schedule performance for political reasons, or introduce political requirements such as the need to boost local manufacturing or employment.

The list outlined above involves a range of diverse risk factors that will not necessarily arise in isolation. The international literature suggests that the interaction of these different risk factors on any large-scale defence project is difficult to predict, track and manage no matter how sophisticated the policies and processes of the procurement system.

A New Zealand perspective

While the 'seven deadly risks' are general risk factors that can be considered irrespective of jurisdiction, there are also a number of other factors specific to New Zealand that need to be considered, these include:

- 1. The comparative size and scale of New Zealand's defence expenditure, and our reliance on a constrained market of suppliers** – The size and scale of New Zealand's

² *Security Challenges: The Seven Deadly Risks of Defence Projects (Bennet, 2010)*

defence expenditure creates challenges in terms of the scale of New Zealand's purchasing power in international markets and the comparative size of acquisition projects. Particularly supply of capability in the market is already constrained.

- 2. *The one-off, long-term nature of the projects*** – Significant capability is replaced in generational timeframes, or has low levels of repetition between projects. Projects have long running timeframes between policy and introduction into service.
- 3. *An inability to access information on best practice for defence procurement from other countries*** – Despite the myriad of different international defence procurement reviews alluded to earlier, New Zealand has found it very difficult to source or extract system-level information from other jurisdictions due to the levels of confidentiality and information protection. On a number of occasions, those interviewed as part of this report raised the inability to access information and lessons learned from other countries as a constraint to the development of New Zealand's procurement approach.

Restrictions on access to information make it difficult to develop an understanding of international best practice in the procurement of large-scale defence equipment. These restrictions have on-going relevance particularly in an environment where technology, systems, and capability are continuing to develop at pace and increasingly agile management techniques will be required to stay ahead.

Does the system design address the inherent challenges of capability procurement?

This section reviews the particular aspects of the system set up to mitigate the inherent problems experienced in the procurement of major defence equipment.

A response to risk factors built into the capability management system

The table below provides a brief overview of the response Defence has built into the capability management system to mitigate each of the risk factors identified earlier in this report.

While it is our view that these inherent risk factors can never be eliminated, the system responses outlined below do provide both a level of confidence as to the improvement of the capability management system and a level of assurance around project management and risk management within that system.

Inherent issues	System responses
<p><i>Novelty</i></p> <p><i>When something is being tried for the first time, novelty or experimental risk is present.</i></p>	<p>Defence has now instilled a policy and a culture where the default position is to avoid solutions that are unproven, highly developmental and/or unsupported by a reliable evidence base.</p> <p>Lessons have been learned from past acquisitions and now there is a focus on off-the-shelf capability.</p>
<p><i>Uncertainty</i></p> <p><i>Where a lack of data makes it impossible to predict significant project elements such as time, cost, or quality of performance against specifications.</i></p>	<p>To counteract the inherent levels of uncertainty in large capability projects, Defence has increased governance and oversight, including external board appointments and a stronger willingness to seek out and incorporate external advice.</p> <p>Defence has also increased the level of rigour applied to early analysis, through the IPT structure experts throughout the capability management lifecycle being involved at an earlier stage and there is a developing body of guidance on WoL costing, forecasting, and more sophisticated reporting.</p> <p>But the most promising system response to uncertainty is the development of professional project managers and experts that are more capable and more prepared to manage and deal with risks and issues as they arise in a flexible way.</p>
<p><i>Complexity</i></p> <p><i>Where a project involves a type of capability that is extremely difficult to understand (for example weapon systems software or other innovative technology), the project becomes very difficult to manage. Projects involve further risks where multiple complex elements interface with each other.</i></p>	<p>Again, the IPT structure experts such as the Capability Integration Leads or Acquisition Leads are now being introduced at a more appropriate time to identify, mitigate and manage risks and complexities. Defence is already seeing the benefits of the integrated approach taken to managing capability projects with the entire life cycle in mind.</p> <p>The strength of the blended Ministry / NZDF team is that Defence is also getting better use out of NZDF SMEs as opposed to using the SMEs as general project management resources.</p> <p>The improving use of the experts on governance forums and use of external advisors including lawyers for commercial contracting supports the timely management of complex risks.</p>

<p><i>Interdependence</i></p> <p><i>Where requirements for interoperability across different service domains, and different alliances multiplies the number of factors outside the control of a project team.</i></p>	<p>There is an increasing desire across Defence to realise that ‘we are not different’, that there are significant benefits to securing the same off-the-shelf products purchased by our external key strategic partners.</p> <p>There is increased cooperation with our external key strategic partners and other New Zealand government agencies to ensure that capability definition is mindful of the broader needs of New Zealand in terms of interoperability.</p> <p>We saw evidence of Defence’s ongoing efforts to leverage off capability requirements and purchasing intentions of our external key strategic partners to support the acquisition of common capability.</p>
<p><i>Resource limitations</i></p> <p><i>Where projects are provided with insufficient financial and human resources.</i></p>	<p>Under DCCAP there has been significant investment in increasing the amount of specialist project managers.</p> <p>Defence has also created a scale and risk tool to support better tailoring of risk management to the particular project. As a result of applying the scale and risk tool and strengthened governance, two major projects have not proceeded, due to identified resource constraints.</p>
<p><i>The gale of creative destruction</i></p> <p><i>Where the pace of industrial development, technological change, competition and corporate greed can manifest itself in risks such as suppliers going into liquidation, or providing misleading information on the quality and timeliness of outputs.</i></p>	<p>Lessons have been learned in previous acquisitions over the years and incorporated into due diligence processes to support mitigation of commercial risk.</p> <p>Due diligence is now structured to include a process which involves contacting referees and previous customers of prime contractors. This process includes site visits. The prime contractors for most large capability projects are well known to Defence as they are often established players. Defence will also look to what other countries have experienced.</p> <p>Also, once a sub-contractor component is of a sufficient size, due diligence is carried out on that organisation as well.</p> <p>In each project, a senior person is also appointed to be present on the ground, off shore to manage the contract as milestones are being met.</p>
<p><i>Political constraints</i></p> <p><i>Where there is a tendency to overpromise, or narrowly focus on cost and schedule performance for political reasons.</i></p>	<p>Defence capital planning is seen as an exemplar in the public sector from the White Paper process through Capability Planning and Capital Planning. This process of converting strategy and policy into capital planning leads to much clearer conversations with politicians.</p> <p>There are also regular touch points with Ministers to support updated awareness of project progress.</p> <p>DCCAP has introduced increases in quality and consistency of reporting. Frameworks, process and oversight for risk management are being embedded. And, the professional teams of project experts combined with strengthened levels of governance are appropriate given the nature and scale of the projects.</p>

<p>Other commercial factors</p> <p><i>The comparative size and scale of New Zealand's defence expenditure, and our reliance on a constrained market of suppliers.</i></p>	<p>Competition is used as the main driver to maximise value among suppliers for each project. Capability requirements are also managed from the very start with a careful rigour to ensure that the process keeps the field of suppliers open for as long as possible.</p> <p>General feedback is that New Zealand negotiates hard on timing and payments, and that negotiating teams do a good job of making project constraints work. Overall feedback can be summarised as 'we don't have a lot of money, we do have a lot of scrutiny, but we also have nimble teams who are able to act at pace, which is a real strength'.</p> <p>There is increasing evidence that WoLC is factored in upfront and through-life support is being negotiated in parallel with the acquisition itself.</p>
<p>The timeframes</p> <p><i>The one-off, long-term nature of the projects.</i></p>	<p>The IPT construct and the use of project governance boards supports a level of continuity over the life of the project. If SMEs or SROs are shifted during posting cycles or a key person leaves Defence, there are other team members involved to support continued performance.</p> <p>Defence has also established a system of processes, procedures, methodologies and guidance which is being codified and will support on-going ways of working and on-boarding for new team members.</p>
<p>Access to information</p> <p><i>An inability to access information on best practice for defence procurement from other countries.</i></p>	<p>As evidenced through the development of the International Exemplar 2020, Defence has embraced co-design processes to support best practice and continuous improvement. Defence now readily draws on in-house expertise, Defence staff, international experts, other government agencies, professional services firms and Defence industry representatives to support on-going development.</p>

Evidence of improved results

This section addresses and draws conclusions based on available evidence that the new system is delivering better results for the Crown.

While the system developed under DCCAP has not been in place for long enough to be properly tested, areas where we found evidence of improved results on top of the material discussed earlier in this report, includes:

1. Benefits management
2. Review and assurance
3. Business case development.

Benefits Management

Under DCCAP, Defence has established a Benefits Management Framework covering all major projects. The Framework sets out how benefits are identified, defined, tracked and realised.

Benefit Realisation Plans have been finalised for 19 projects, with a significant portion of benefits having been realised for these projects.

The Pilot Training Capability project was the first project in New Zealand to undertake an Operational and Benefits Realisation Review (Gateway 5). The Review scored the project with a 'green' rating for delivery confidence, noting that 'successful delivery to time, cost and quality appears highly likely and there are no major outstanding issues that at this stage appear to threaten delivery significantly'.

Review and assurance

Gateway Reviews

Review and assurance makes up a critical part of the Capability Management System. All major monitored projects are subject to Gateway Review. A review of a selection of recent Gateway Reviews is set out below.

Future Air Mobility Capability - Gateway Review Report 2: November 2017

The Future Air Mobility Capability ('FAMC') project had been transitioned into an IPT to draft the Indicative Business Case ('IBC'). Overall, the rating for the project was Amber/Green to suggest successful delivery appears probable.

Feedback included in the FAMC Gateway review included:

1. The project is careful to be solution agnostic at the early IBC into DBC stages – this is important to ensure options are open for as long as possible and to support maximising the available supplier pool.
2. Through-life support options were included from the outset (noting dependencies within the Defence Estate and Infrastructure, Estate Regeneration programme). Reviewers commented on the increasing trend of early consideration for through-life support on Defence projects, which was thought to represent a significant systematic improvement in cost control and risk management.
3. The project reviewers noted that the increase in operating budget secured through DCCAP was paying dividends in terms of the evidence of increases in performance and governance for the FAMC project.
4. Reviewers felt that the governance arrangements for the FAMC represented significant changes on past practice.
5. Reviewers also commented on the introduction of a comprehensive Risk and Issue Management process for the project, with evidence within the document of risk escalation.

Future Air Surveillance Capability - Gateway Review Report 3: February 2018

The Future Air Surveillance Capability ('FASC') received an amber/green rating for the project to suggest successful delivery appears probable.

Feedback included in the FASC Gateway review included:

1. New Zealand has learnt from previous difficult experience with the cost of native solutions and orphan fleets and is actively working to avoid bespoke solutions.
2. Reviews witnessed the benefits of the FASC IPT's decision to subject the business case to critique by the corporate centre business case clinics and incorporate all feedback.
3. Reviewers commented on the significant improvement seen in stakeholder engagement through the work of IPTs compared to previous projects.
4. Reviewers felt the project was under effective control, well governed and with a well-regarded IPT leader.

Major Project Monitoring

Nine projects are subject to Major Project Monitoring by The Treasury. In a report to the Minister of Defence in August 2017, The Treasury noted Defence's improved performance as reflecting the introduction of IPTs, which were:

'improving the quality of project collateral and processes reducing risk of project failure. Other state sector leading initiatives, such as Whole-of-Life Costing modelling, are helping to better inform funding decisions. The new benefits framework that is being put in place also positively influences the delivery confidence ratings.'

Business Case Development

Business case development has seen an improvement in quality and timeliness in accordance with the wider lift in maturity brought about by the more integrated approach of Integrated Project Teams, and enhanced governance and oversight.

Measures of improvements in quality include:

1. **The New Zealand Institute of Economic Research survey of 2017 Cabinet papers** – rated Cabinet papers associated with capability investments (business cases and disposal of assets) as 7.8 out of ten (average for all Cabinet papers from Ministry as 7.6 that saw it as second highest rated agency of the sample). The overall average in 2016 was 7.5.
2. **The business clinics conducted by central agencies** – indicated that business cases have been of a high quality. Both the Future Air Mobility Capability business case and the Network Enabled Army tranche 2 benefits analysis are described as exemplars worth sharing.
3. **Treasury's IMAP team** – indicated that Defence is a lead practitioner of business case development and is continuing to show improvement in their quality.

Measuring value for money

This section provides advice on potential approaches to measuring efficiency and effectiveness/value for money of defence capability investments.

Return on investment

Identifying value for money in the defence context is extremely difficult, particularly when it comes to investments in major capability. Return on investment and other financial measures often fail to capture the full benefits of major capability due to the significant non-financial benefits involved such as diplomatic benefits, benefits of security and intelligence, and the ability to respond to emergencies and disasters. Therefore, financial measures are often incomplete in measuring value for money.

As part of this review we have researched alternative ways of considering value for money of major capability investments and have outlined two alternative methods

Painful trade-offs³

The Centre for Strategic and International Studies ('CSIS') have identified what they call the 'iron triangle of painful trade-offs' which they use as a structure to classify the usefulness of any defence force.

CSIS use the following three categories to assess the usefulness of major defence projects:

- ***Readiness*** – preparing the force to be ready today
- ***Investment*** – preparing the force to be ready tomorrow
- ***Structure*** – sizing the force.

CSIS suggests that the reasonable balance between these three factors is often difficult to maintain as prioritisation of any one category can limit investment in the other two areas. Hence the painful trade-off. For example, preparation for the future reduces the readiness of the force today through limited availability of funding.

Major capability investment can be scored in each of the categories above to determine the extent to which the project improves the key focus of the defence force, and by proxy, the extent to which it delivers value for money.

Scenario assessments⁴

CSIS also suggests the use of scenarios to assess investment in the defence force, by identifying the extent to which an investment provides support in the event a potential scenario requires defence force intervention.

These scenarios would be unique to each defence force, depending on the strategic operating environment. Examples of the types of scenarios that might be relevant in a New Zealand Defence context include:

- Pacific Relief Operations
- Exclusive Economic Zone interdiction
- Antarctic Operations
- Major Earthquake Response
- Syria / Middle East Major Combat Operations.

³ *Defense Strategy and the Iron Triangle of Painful Trade-offs (Hicks, 2017)*

⁴ *Alternative Defense Strategies in a Cost-Capped Environment (Cancian and Murdock, 2016)*

Qualitative assessment against each of the above scenarios could give an indication of the extent to which an investment in major capability will assist the NZDF in providing protection / support when needed.

For example, certain assets and equipment could provide support for Exclusive Economic Zone interdiction but not be useful for Antarctic Operations.

This framework allows for an informed discussion on the trade-offs of investments and a potential indication of value for money, based on the priorities of Defence in being prepared for each selected scenario.

Observation – Value for Money

Improving the measurement of value for money in the defence context

Identifying ways to improve the measurement of value for money in the defence context is very difficult, and a significant undertaking, especially considering the limited application of financial measures such as return on investment.

In our view, long-term capital planning within the Defence capability management system provides an exemplar for the wider public sector, and we understand that work relating to value for money scenario assessments is currently under development to support improved understanding in this area. We would encourage Defence and The Treasury to continue to work together on ways to improve the measurement of value for money as a standalone piece of policy work with a view to developing a prescribed value for money framework. We would also encourage continued engagement with partners on best practice in this area.

Conclusions and observations

As noted at the beginning of this report, on the basis of what we have observed through research and discussions, our view is that DCCAP has addressed the structural, operational and information deficiencies of the previous system.

Like every other system of this type, ongoing work will be required to further consolidate, refine and optimise the investment. Much of this work has already been identified by Defence, and aligns with the observations throughout this report and aggregated in table form in Appendix 3.

These observations should not take away from the fact that the core components of the system, together with the quality of leadership and culture operating within the DCCAP process, have demonstrably mitigated the risks associated with the process of military acquisition.

Overall, as a result of the changes introduced through DCCAP, we have found no reason why decision makers cannot or should not have confidence or assurance in the information presented to them to support decisions.

Key findings of relevance to the other Government agencies

There are a number of lessons from what has been adopted within the Defence capability management system that have relevance for other Government agencies, these include:

1. ***Defence's approach to long-term capital planning*** – From the Defence Mid-point Rebalancing Review through the White Paper process and the development of Capability and Capital Plans provides a strong exemplar of the translation of strategy and policy into capital planning that would be beneficial to the wider public sector.
2. ***A clear vision and ambition*** – Defence invested a lot of time and effort in developing a vision for capability management in New Zealand in the shape of the International Exemplar 2020. This document was worth the investment as it has provided the clarity of purpose and the direction required in a complicated change programme of this nature.
3. ***Leadership*** – Any comprehensive change programme must be led from the top to realise success, strong leadership and senior commitment to DCCAP at the programme level has been critical to support momentum.
4. ***Stakeholder engagement*** – Strong relationships with central agencies, other public sector agencies and external advisors, coupled with a willingness to take on and apply feedback, has paid dividends in terms of the professionalisation of the system.
5. ***Cultural change*** – Users of the system were involved in building and developing changes from the very start, the use of workshops and co-design fostered integrated thinking and brought staff from all levels along on the change journey.
6. ***Integrated approach to the capability lifecycle*** – A focus on WoLC and investment across the capability lifecycle has seen the introduction of a completely new way of working through Integrated Project Teams made up of blended staff members from both Defence organisations and the codification of tools, processes and accountability to support it. Other agencies with large procurement functions could benefit from earlier involvement of key people and perspective and improved integration across an assets lifecycle.

Appendix 1 Glossary

Term	Acronym	Definition
Acquisition Lead		A core Integrated Project Team role appointed from the Ministry. The role ensures all commercial and acquisition aspects related to the capability are delivered; provides advice on commercial complexities, processes and procedures during the design phase; focuses on actively engaging and leading all aspects of acquisition; and is intimately involved in the acquisition process in accordance with all policies and guidance.
Acquisition phase		One of six phases in the Defence Capability Life Cycle described in the Defence Capability Plan 2016. In the Capability Management System, the Acquisition and Introduction Into Service phases are combined into the Capability Delivery phase.
Capability		The personnel, equipment, platforms, and/or other resources that affect the capacity to undertake military operations.
Capability Definition phase		The second of the five phases within the Defence Capability Management System life cycle. Its purpose is to inform investment choices so that government is able to consider policy priorities and intent against affordability and feasibility.
Capability Delivery phase		The third of the five phases within the Defence Capability Management System life cycle. Its purpose is to integrate and deliver the government's investment in capability so that the solution can achieve the required outcomes and benefits.
Capability Governance Board	CGB	The highest-level Defence governance body across the Capability Management System, focused on strategic investment and capability portfolio decision-making and risk management. Assists the Secretary of Defence and the Chief of Defence Force to meet their respective and joint accountabilities and Leadership responsibilities across the Defence Capability Life Cycle. Formerly called the Capability Management Board (CMB).
Capability Integration Lead		A core Integrated Project Team role appointed from NZDF. The role: identifies, understands and manages business change impacts required to successfully implement the new capability; is responsible for planning and managing the successful transition of all components of capability and associated change, from project delivery to in service; ensures the new capability is capable of delivering the expected benefits; ensures that all elements of transition to in service are designed and managed in conjunction with the Integrated Project Team Leader; and manages the Operational Testing programme in conjunction with the Acquisition lead.
Capability Integration Plan	CIP	A single cohesive plan that pulls together all of the planning and activities that need to be undertaken in order to properly integrate the capability.
Capability Management Framework	CMF	The Capability Management Framework describes the themes, frameworks, processes, roles and responsibilities involved in the management of defence capability. It is jointly owned by the NZDF and the Ministry and is available to all staff in both agencies through a dedicated sharepoint site "CMF On-line".

Capability Management Group	CMG	The management group that provides assurance to the Capability Governance Board on operational portfolio management based on a common understanding and alignment of the members' delegated management responsibilities. It supervises portfolio and system performance with a focus on providing assurance that the portfolio of inflight investments is being effectively delivered. Co-Chaired by the Vice Chief of Defence Force and Deputy Secretary of Defence. Replaced the Capability Steering Group (CSG) but has a different mandate and membership.
Capability Management System	CMS	The Defence Capability Management System is the guidance, standards, frameworks, enablers, tools and people, required to undertake capability management activities. The System has been developed specifically for the Defence context. Its purpose is to enable the government's defence policy through the cost-effective design, delivery and maintenance and eventual disposal of military capability.
Defence		Refers to both Ministry of Defence and New Zealand Defence Force collectively.
Defence Capability Plan		A public document that describes the capability sets needed to deliver the government's defence policy as set out in the Defence White Paper. It outlines the investment required to deliver the force structure of the Defence White Paper.
Defence Capability Change Action Programme	DCCAP	A transformational change programme led by the Ministry and NZDF to deliver major enhancements to the Capability Management System. The programme's objectives are to deliver a repeatable, consistent, continuously improving Capability Management System; well aligned and highly expert portfolio, programme and project support functions; comprehensive and well-informed leadership and governance functions; a highly expert, professional project workforce; and strong defence industry engagement and partnerships, to help Defence to deliver the future state set out in the International Exemplar 2020.
Defence White Paper		A public expression of the government's defence policy goals, matched to a future strategic environment.
Detailed Business Case	DBC	A document which recommends a preferred investment option that optimises value for money and seeks approval from decision-makers to finalise the arrangements for successful implementation.
Early Engagement		A subset of engagement, early engagement is a deliberate, planned, consistent, systematic and purposeful programme of outreach between external parties and Defence which occurs before the formal procurement phase.
External Advisory Board Member		A member of the Project or Programme Board, from outside of Defence, who brings specific expertise and wisdom that will help the board ensure the Project or Programme is successful. Has no formal delegations or decision-making accountability.
Gateway Review		A multi-gate Programme and Project assurance regime designed to provide confidential, independent, high-level, action-oriented recommendations to Senior Responsible Owners at key project milestones, focusing on the issues that are important to the continuing success of the project. The process is managed by The Treasury as an independent and confidential peer review to: examine projects and

		programmes at key points in their life cycles, assess their progress, and rate the likelihood of successful delivery of their outcomes.
Indicative Business Case	IBC	A document which provides decision-makers with an early indication of the preferred way forward for high value and/or high risk investment proposals and provides the senior responsible officer with early certainty.
Integrated Project Team	IPT	A team comprising personnel from both the Ministry and NZDF and including professional project specialists and subject matter experts. Membership is based on the technical and business functions required to define, develop and deliver a supportable capability, and is closely aligned to the requirements of the project life cycle. Led by a dedicated resource providing a single point of accountability for the success of the project.
Integrated Project Team Leader	IPT Leader	A core Integrated Project Team role appointed from the Ministry. The role: provides continuity and leadership of an assigned project from capability definition to delivery; is accountable for providing a capability that is able to deliver the agreed benefits for the owners on time, budget and to scope; is responsible for identifying and managing the capability elements required for meeting the project's objectives; is responsible for ensuring appropriate management, end-user, and supplier involvement throughout the life of the project; and is responsible for managing the overall project risk.
Introduction into Service phase		One of six phases in the Defence Capability Life Cycle described in the Defence Capability Plan 2016. In the Capability Management System, the Introduction Into Service and Acquisition are combined into the Capability Delivery phase.
Market Engagement Strategy		An agreed, pre-determined plan that aims to: communicate project needs to suppliers, openly and transparently discuss possible solutions with industry, stimulate innovation in the design and delivery of the solution, and understand market capacity, capability and trends.
Portfolio Management		Defence manages the totality of its planned investments through a portfolio management approach. Portfolio management is a permanent function that has oversight of the total contribution to policy and strategic objectives of proposed capability investments, projects and programmes.
Procurement		All aspects of acquiring and delivering goods, services and works. It starts with identifying the need and finishes with either the end of a service contract or the end of the useful life and disposal of an asset.
Procurement Strategy		A document that sets out how the procurement of the best fit solution(s) will be approached and managed.
Project Board		A temporary board formed to provide assurance to the Capability Governance Board that the project will successfully deliver the expected outcomes and benefits. For major capability projects, there are always two Co-Chairs, who jointly share that accountability – one from the Ministry and one from the NZDF. These Co-Chairs are the project's Senior Responsible Owners. The Boards always include a Senior User (from NZDF) and a Senior Supplier (normally from the Ministry). Higher scale and/or risk projects will also include an External Advisory Board Member.

Project Implementation Business Case	PIBC	A document which recommends a preferred supplier and seeks approval from decision-makers to enter into commercial contracts for the provision of the preferred option.
Request for Information	RFI	Standard business process to collect information about the capabilities of various potential suppliers.
Senior Responsible Owner	SRO	The executives directly accountable to the Capability Governance Board for successful delivery of the programme or project. The SROs ensure that the investment delivers a coherent capability, achieves its strategic outcomes and is capable of realising its benefits, within the approved budget, timeframes and expected standards. For major capability projects Defence has determined that there will always be two SROs who jointly share the accountability – one from the Ministry and one from the NZDF. This enables effective execution of the joint accountabilities that both Chief Executives have in the successful development and delivery of new capability.
Subject Matter Expert	SME	A person who is an authority in a particular area or topic.
Whole of Life Costs	WOLC	The present value of total cash costs of the investment over its life cycle. It includes the cost of: purchasing the new asset, resources used to develop and implement the asset, operating, maintaining and supporting the asset (including personnel), and decommissioning and disposal of the asset.

Appendix 2 Contextual information

Institutional arrangements

In New Zealand, the Defence portfolio consists of two state sector organisations: the Ministry of Defence and the New Zealand Defence Force (collectively referred to in this report as ‘Defence’).

The Defence Act 1990 (‘Act’) sets out the primary functions and responsibilities of both the Secretary of Defence and the Chief of Defence Force.

The constitutional arrangements for Defence do not reflect a traditional split between policy and operations; instead, the expectation is that the two Defence organisations work closely together.

The Secretary of Defence’s core responsibilities include, but are not limited to:⁵

1. formulation of defence policy in consultation with the Chief of Defence Force; and
2. procurement, replacement, or repair of ships, vehicles, aircraft, and equipment for use by the NZDF, where they have major significance to military capability.

The core responsibilities of Chief of Defence Force include:⁶

1. responsibility for the functions, conduct and management of the Defence Force; and
2. carrying out defence responsibilities as directed by the Government.

Long-term direction and capital planning

The purchase, upgrade and maintenance of Defence systems and equipment (referred to as ‘capability’) requires significant investment decisions from Government. To support these investment decisions, Defence provides advice on the longer-term policy settings and the strategic environment to discharge the role the Government wants the Defence Force to perform in the long-term. Defence then translates these intentions into capital plans for defence capability. The core documents involved in this process are outlined below.

The Defence White Paper

The Defence White Paper sets out the changes in New Zealand’s strategic environment, and the investment in people and equipment required over the long term to support changes in the direction and capability of Defence. It is the primary mechanism for introducing significant changes to the policy direction for Defence. The most recent White Paper was 2016.

The Defence Capability Plan

The Defence Capability Plan, last prepared in 2016, outlines the programme of capital investment in capability required to deliver the force structure set out in the Defence White Paper. The Capability Plan is the primary vehicle for the Government to communicate its defence capability priorities to the public, industry, and international partners.

The Defence Capital Plan

The Defence Capital Plan details specific capital spending by fiscal year out to 2030. The Defence Capital Plan is reviewed on an annual basis to assess the affordability of planned investments and address any cost pressures through reallocation of funds or trade-offs.

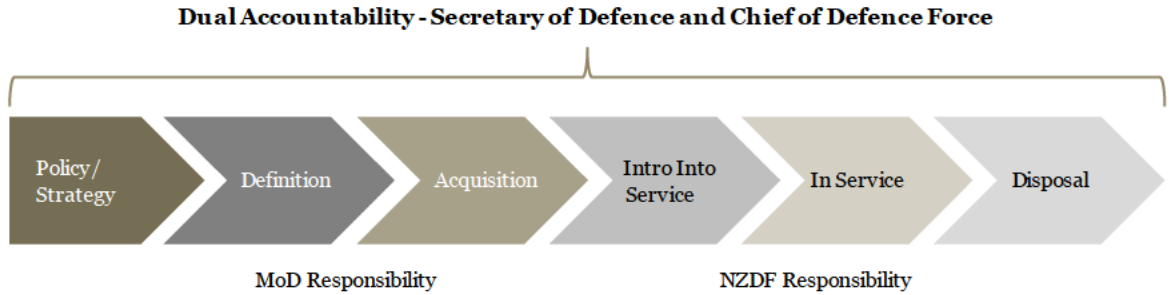
⁵ Section 24, The Defence Act 1990

⁶ Section 25, The Defence Act 1990

The capability lifecycle

The operational lifecycle of military capability flows through a core set of phases from policy specification, through to acquisition and operational use and then eventual disposal. While the Ministry leads policy, capability development, and acquisition phases, and the NZDF leads introduction into service, in-service and disposal phases, the formal accountabilities of both the Secretary of Defence and the Chief of Defence Force reflect the requirement to work together to manage the entire capability lifecycle as one integrated system.⁷

Figure 4: The capability lifecycle



The institutional framework outlined above was established to create constructive tension between the two organisations and ensures that the Government gets strong advice from both a civilian and military perspective. For the purposes of this review, this institutional framework is taken as a given and has been set out as a necessary starting point in examining Defence capability management.

⁷ Defence White Paper 2010

Appendix 3 Summary of our observations

Given the comprehensive change nature of DCCAP, we have made no recommendations. However, we have recorded some observations that arose through conversations with core stakeholders, for Defence's consideration. These have been summarised below for ease of reference.

These observations largely align with Defence's ongoing continuous improvement programme and should not take away from our conclusions on the significant gains made as a result of DCCAP.

Component	Observations
Vision and Leadership	<ul style="list-style-type: none"> Further refine a set of roadmaps with line of sight to the International Exemplar 2020 in each of the core functional areas to support practical next steps.
	<ul style="list-style-type: none"> Ensure strong leadership, and familiarity with programme objectives, continues as DCCAP moves to embed and sustain change and realise continuous improvement.
Governance and Oversight	<ul style="list-style-type: none"> Consider carefully on-going appointments, particularly SROs and externals, with particular attention on the tone of the relationship between the Project Board, the IPT and the influence with the wider organisations.
	<ul style="list-style-type: none"> Consider on-going mentoring and specific training for IPT leads and those who might be new to governance roles, to support them in understanding the purpose of the relationship and getting the most out of the forums.
	<ul style="list-style-type: none"> Focus more dedicated time on portfolio management and governance to review portfolio risks, resourcing and dependencies across both the Major and 'Minor' projects.
	<ul style="list-style-type: none"> Provide more awareness and attention to projects classified as enablers in an effort to manage key dependencies.
Integrated project teams	<ul style="list-style-type: none"> Consider the value of embedding external SMEs on project teams for deep, narrow technical support.
	<ul style="list-style-type: none"> Consider specific training and guidance for IPT members on how to get the best out of highly technical SMEs at the most appropriate time, as well as how to get the best out of the Project boards.
Supporting infrastructure	<ul style="list-style-type: none"> Emphasise on-going communication, joint planning and coordination across the portfolio to avoid duplication and overlap in processes and functions.
	<ul style="list-style-type: none"> Continue to work on ways to inform and improve decision-making related to resource management for both in-flight and upcoming projects across the portfolio, with a focus on prioritising the needs of relevant projects.
	<ul style="list-style-type: none"> Review the process of transitioning capability integration plans from IPTs into on-going practice to ensure this transition is seamless.
Methodologies, guidance, tools and systems	<ul style="list-style-type: none"> Consider the use of Agile methodologies to strength the current approach to capability management, procurement, and development of business intelligence.
	<ul style="list-style-type: none"> Review and update CMF On-Line regularly to keep information up-to-date and improve the user experience.
	<ul style="list-style-type: none"> Consider supplementing CMF On-Line with an extensive set of lessons learned from experienced practitioners and previous

	<p>acquisition projects to provide practical insights for IPTs and support sound judgement in the future.</p> <hr/> <ul style="list-style-type: none"> • Introduce on-going training and mentoring for both IPT leads and governance members to set expectations on the purpose of project governance, the role it plays in risk management, and how to get the best out of the forums. <hr/> <ul style="list-style-type: none"> • Consider developing and promoting a formal process for dealing with risks that are outside the control of the project and provide guidance and set expectations with both the IPTs and the Project Boards. <hr/> <ul style="list-style-type: none"> • Review the use of project management systems and the disciplined capture of information in a collaborative way with users to identify ways in which the process or the system might be improved to support improvements in the integrity of information.
Skills and Experience	<ul style="list-style-type: none"> • Continue to invest in people working within the capability management system to support retention, succession planning, training, challenging, upskilling, and exposing people to the right experiences. People will need to be an on-going focus. <hr/> <ul style="list-style-type: none"> • Develop a sustainable solution to the potential risk that posting cycles pose to optimal outcomes on capability projects. <hr/> <ul style="list-style-type: none"> • Consider more pre-training for SMEs transitioning into Capability Branch. <hr/> <ul style="list-style-type: none"> • Ensure all staff playing an active role in negotiations understand the advantages New Zealand has in the market place for any given project. <hr/> <ul style="list-style-type: none"> • Continue to work on the approach to performance management across both organisations to support IPTs in the management of project performance. <hr/> <ul style="list-style-type: none"> • Continue to promote the equal importance of both the acquisition and through-life support to optimise value in defence contracts. Continued training and focus is required to ensure this becomes an embedded practice. <hr/> <ul style="list-style-type: none"> • Consider building staff experience and implementing retention strategies such as secondments with industry, secondments from industry into targeted roles, internal and external mentoring across both organisations, on-going engagement activity, setting clear expectations, identifying development paths and long-term career paths, and dealing swiftly with poor performance. <hr/> <ul style="list-style-type: none"> • Implement strong succession planning to ensure on-going success and mitigate any key person risks. <hr/> <ul style="list-style-type: none"> • Balance efforts to embed the changes made to date, whilst continuing to strive for improvements to support the developing culture across the capability management system. Change management, further detailed planning, strong leadership and the continued involvement of all staff remain important.
Industry engagement	<ul style="list-style-type: none"> • Examine the industry engagement process between Approval to Initiate and drafting of the Detailed Business Case by talking to others in the public sector, as well as alternative procurement experts to support a better understanding of more flexible and dynamic industry engagement approaches.

	<ul style="list-style-type: none"> • Consider piloting alternative engagement approaches on relevant projects, in consultation with relevant experts to experience the benefits of alternative forms of market engagement.
Information and reporting	<ul style="list-style-type: none"> • Provide IPT Leads with further training on how to present the right information at the right level to the Project Board.
	<ul style="list-style-type: none"> • Consider formal opportunities throughout the project cycle to refresh project information around price and schedule without any negative impact.
	<ul style="list-style-type: none"> • Consider applying mechanisms for managing optimism bias early on in the process where projects are just at a conceptual level.
	<ul style="list-style-type: none"> • Consider the addition of a set of navigation tools, to place any given decision in context and illustrate how the decision links in with other projects and the overall progress of the Capability Plan or White Paper.
	<ul style="list-style-type: none"> • Consider areas for improvements in business cases including ensuring there is a strong connection between the acquisition and the strategic vision, and that accurate information on counterfactuals and the costs of deferring a decision are presented.
Value for Money	<ul style="list-style-type: none"> • Work with The Treasury on ways to improve the measurement of value for money as a standalone piece of policy work

Appendix 4 Restrictions

This report has been prepared solely for the purposes stated herein and should not be relied upon for any other purpose.

To the fullest extent permitted by law, we do not accept a duty of care to any third party in connection with the provision of this report and/or any related information or explanation (together, the “Information”). Accordingly, regardless of the form of action, whether in contract, tort (including without limitation, negligence) or otherwise, and to the extent permitted by applicable law, we do not accept liability of any kind to any third party and disclaim all responsibility for the consequences of any third party acting or refraining to act in reliance on the Information.

We have not independently verified the accuracy of all information provided to us, and have not conducted any form of audit in respect of the organisations. Accordingly, we express no opinion on the reliability, accuracy, or completeness of the information provided to us and upon which we have relied.

The statements and opinions expressed herein have been made in good faith, and on the basis that all information relied upon is true and accurate in all material respects, and not misleading by reason of omission or otherwise.

The statements and opinions expressed in this report are based on information available as at the date of the report.

We reserve the right, but will be under no obligation, to review or amend our report, if any additional information, which was in existence on the date of this report was not brought to our attention, or subsequently comes to light.

We have relied on forecasts and assumptions about future events which, by their nature, are not able to be independently verified. Inevitably, some assumptions may not materialise and unanticipated events and circumstances are likely to occur. Therefore, actual results in the future will vary from the forecasts upon which we have relied. These variations may be material.

This report is issued pursuant to the terms and conditions set out in our engagement letter and the Terms of Business.