



concept exploration

the emerging use of ‘horizontal  
primes’ across the Defence  
Enterprise

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# Executive Summary

Over the last decade, Defence<sup>1</sup> have significantly evolved the methods of generating military capability—evolution that remains ongoing. While there have been a range of substantial acquisition or upgrade activities (such as the Canberra Class LHD, P8 Poseidon, F-35 Lightning), equally significant have been the structural and service delivery reforms that have occurred within Defence, or through collaborative effort between Defence and Defence Industry.

When considering these reforms, three of the more significant catalysts over the last decade have inarguably been the: First Principles Review<sup>2</sup> (FPR) and the recognition of Defence Industry as a Fundamental Input to Capability (FIC) in the 2016 Defence White Paper<sup>3</sup> (2016 DWP); and the release of the 2018 Defence Industrial Capability Plan<sup>4</sup> (2018 DICP) which introduced the initial Sovereign Industrial Capability Priorities.

The last ten years has seen two Federal Government majority transfers, six Prime Ministers, eight Defence Ministers, and ten Defence Industry Ministers—a decade perhaps unparalleled in Defence-facing Government leadership change. Despite this turmoil, the significant catalysts above demonstrate coherent and progressive messaging from Defence to Defence Industry—*we recognise your contribution and are committed to partnering to achieve sovereign defence goals.*

This paper explores Defence and Defence Industry partnering through the concept of a ‘Horizontal Prime’. A specific definition is proffered in this paper for the purpose of providing common reference, however the term has evolved into occasional lexicon over the last few years as a result of an increasing presence of organisations within the Defence Enterprise providing service offerings for common functions that span multiple domains and may pervade many, or all, phases of the One Defence Capability System (ODCS)<sup>5</sup>.

Through subsequent sections, this paper aims to provide the reader with an informed perspective on some of the challenges, opportunities and potential implications of adopting a Horizontal Prime model for capability function delivery—ultimately aiming to provide a framework for considering whether or not this model has potential value in the specific applied context.

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<sup>1</sup> Previously referred to as the Australian Defence Organisation, [Defence](#) is the collection of the Australian Defence Force (Military Services) and the Department of Defence (relevant Government groups).

<sup>2</sup> [First Principles Review: Creating One Defence](#)

<sup>3</sup> [2016 Defence White Paper](#)

<sup>4</sup> [Defence Industrial Capability Plan](#)

<sup>5</sup> Refer to the [Defence Capability Manual](#)

# 1 Problem Statement

## 1.1 Project Background

To support capability delivery, Defence consistently collaborates with Defence Industry for the provision of specialist, in-demand skillsets across most major capabilities and throughout most of the capability life cycle. Increasingly, the use of Australian Defence Industry is becoming more deliberate, more strategic, and is spanning traditional organisational, capability or service bounds.

In response to these demands, some Defence Industry entities are making service offerings for common functions that span multiple domains and sometimes pervade many or all phases of the One Defence Capability System (ODCS). Two recent examples of Defence attempting to understand the structural considerations and potential benefits of a Strategic Industry Partner(s) are in the Approach to Markey (AtM) via Request for Information (RFI) for a Test and Evaluation (T&E) Strategic Industry Partner under CD-RFI-24943-1, and the AtM via Request for Proposal (RFP) for a Modernisation of Maritime Electronic Warfare (MMEW) Australian Industry Strategic Partner under JSD-RFP-18692-1 [and subsequent tender processes].

This paper seeks to explore the conceptual application of a 'Horizontal Prime' (such as is presented in the RFI/RFP detailed above) within the current Defence context, with specific consideration for the following focal points derived through consultation with the paper's Project Sponsor (Mr Peter Nugent, AeroPM):

- What are the characteristics of a function that make it a candidate for adopting a 'horizontal prime' model?
- What are the implications for Defence Industry?
- Does the 'horizontal prime' model present a viable candidate for Defence to consider for the delivery of certain functions? Should this model be adopted for all functions that meet the candidate characteristics?

## 1.2 Defence Context

It is important to consider the exploration that is presented in this paper, and the subsequent conclusions and recommendations, in the context of Australia's current strategic geopolitical environment, the ongoing revolution in military affairs (RMA) and the competing pressures in the national labour market. Aspects of these are summarised below, however it is acknowledged that these complex issues would require dedicated exploration in order to 'do them justice.

**Threats to Rules-based Global Order.** As outlined in the 2016 DWP, a 'rules-based global order' is a strategic interest for Australia—an interest which Australia must be prepared to defend domestically and abroad. In the 2020 Defence Strategic Update<sup>6</sup> (2020 DSU), it was recognised that increasing disruption to this interest was occurring, particularly in the context of major power competition in the Indo-Pacific.

In February 2022, an escalation of the Russo-Ukraine War (through the ongoing Russian military invasion of Ukraine) has further fractured the fragile global stability. While the effects of this conflict will not be fully recognised for many years, the tacit approval demonstrated by China in failing to outwardly condemn Russian actions creates uncertainty on the global scale the likes of which have arguably not been seen since by Australia and her declared allies since the end of World War II.

**Revolution in Military Affairs.** While the term 'Revolution in Military Affairs' (RMA) has at times been used to identify specific historical periods of development in military technology integration, the concept of technology driving warfare evolution remains a tenet of all modern militaries. Whether developments are through more nascent concepts (such as the prevalence of cyber-physical systems or 'cognitive' warfare technology), or through the application of existing technologies in new and novel ways (such as the use of

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<sup>6</sup> [2020 Defence Strategic Update](#)

use of commercial drones in warfare in the current Ukrainian conflict<sup>7</sup>), the unprecedented rate of technology development is demanding a commensurate restructure in both the 'art of warfare' and the methods by which modern militaries acquire, integrate and field technology which has a military application.

**Sovereign Defence Industry Capability.** In the 2018 DICP, the concept of Sovereign Defence Industry was better defined—supporting a shift from the more ambiguous concept of Australian Industry Capability (AIC) to a structured concept which was aligned to strategic sovereign capability support needs. The importance of the sovereign industrial base was brought to the fore in stark manner during the first 12-18 months of the global CoViD-19 pandemic—with challenges to civilian and defence supply chains globally leading to challenges in maintaining critical national infrastructure or Defence capabilities both domestically and where projected or deployed abroad.

**Workforce Challenges.** In March 2022, the Prime Minister announced that the Defence Workforce (ADF and APS combined) would expand by some 30% to over 100,000 by 2040. While ADF recruitment numbers set modern records during the uncertain economic conditions of mid-2020 through 2021, both the ADF and APS are experiencing challenges in recruitment and retention are being presented, with absolute or relative attrition against growth targets year-on-year decreasing the likelihood that Defence will achieve its workforce goals to 2040 without major structural or cultural reform, value, or benefit adjustment and/or legislative changes.

Defence Industry does not escape the current labour market challenges unscathed—the latest Kinexus Defence Industry Insights<sup>8</sup> details workforce mobility, wage growth expectations and increasing market competition, which can present two complications: increased attraction for ADF and APS personnel to transition into Defence Industry for (at times) a net-zero-sum transfer of capability, and uncertainty about whether Defence will be able to fiscally sustain both workforce supplementation and capability acquisition as a result of cost pressures born by market competition (within Defence Industry and with competing industries).

**Defence Force Structure.** The combination of Military modernisation, technological disruption and the risk of state-on-state conflict are complicating Australia's strategic circumstances, as is recognised in the commissioning of the Defence Strategic Review<sup>9</sup> (DSR). Due to be delivered in 2023, the DSR will consider the priority of investment in Defence capabilities and assess the Australian Defence Force's structure, posture, and preparedness in order to optimise Defence capability and posture to meet the nation's security challenges over the period 2023-24 to 2032-33 and beyond. While no detailed preliminary conclusions or recommendations from the DSR are known, it is anticipated that the ongoing focus on 'whole-of-enterprise' approaches to capability and workforce management will remain steadfast principles for Defence.

### 1.3 Definitions

The authors could not derive a clear definition of a Horizontal Prime in the Defence context from any contemporary literature, however, have reviewed similar concepts within both the commercial and Defence contexts, and considered their application in the manner defined below. To clarify the constituent input definitions that supported deriving the proffered definition of Horizontal Prime<sup>10</sup>, the below definitions/explanations are included.

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<sup>7</sup> [Ukrainian soldiers are turning consumer drones into formidable weapons of war](#)

<sup>8</sup> [Defence Industry Insights – 9<sup>th</sup> Edition](#)

<sup>9</sup> [Defence Strategic Review](#)

<sup>10</sup> Note, Horizontal Prime and Defence Horizontal Prime are used interchangeably within this report.



### 1.3.1 Prime

Department of Defence defines prime contractors<sup>11</sup> via a “[...] contract directly with the Defence Materiel Organisation and employ more than 200 people working essentially full-time on Defence projects.’ The definition of a prime here is interchangeably with a prime contractor although does not contain a requirement for 200 employees” and specifies a prime contract<sup>12</sup> as “A contract or contractual action entered into for the purpose of obtaining supplies, materials, equipment, or services of any kind” and notes that “a prime contract will have sub-contracts”

### 1.3.2 Function

Business Directory<sup>13</sup> defines Business Function as "a process or operation that is performed routinely to carry out a part of the mission of an organization." It formulates part of a capability; for example, the function of training is typically associated with a warfighter. Applying this within a Defence context, a function refers to a body of processes or operations that is performed routinely to enable Defence in a specific manner, usually a capability is comprised of functions and services. Note, in the context of the concept of a Horizontal Prime, the term function has been extrapolated to be a collection of specific functions and activities that deliver specific capabilities or capability effects. For example, the conduct of test and evaluation activities or the delivery and sustainment of aviation life support equipment.

### 1.3.3 Capability

The Defence Capability Manual defines capability<sup>14</sup> as “the power to achieve a desired operational effect in a nominated environment within a specified time, and to sustain that effect for a designated period; the specific assets Defence uses to perform a given duty.”

### 1.3.4 Capability Manager:

Further defined within Section 2.1.1, the Capability Manager<sup>15</sup> is defined in the Defence Capability Manual (DCM) as “responsible for raising, training and sustaining their respective capabilities at the levels of preparedness described in the Chief of Defence Force Preparedness Directive; the party responsible for ensuring capability readiness.”

### 1.3.5 Business Process Outsourcing

The concept of a specific function being provided across organisations is not uncommon in the commercial context and is typically referred to as Business Process Outsourcing (BPO)—a concept which can be applied in the Defence context as the foundation for a ‘Horizontal Prime’.

Gartner<sup>16</sup> defines BPO as “the delegation of one or more [...] business processes to an external provider that, in turn, owns, administrates, and manages the selected processes based on defined and measurable performance metrics. BPO offerings are categorized in two major categories: horizontal offerings (those that can be leveraged across specific industries) and vertical-specific offerings (those that demand specific industry vertical process knowledge).”

### 1.3.6 Horizontal Prime

A horizontal prime is therefore a party who focuses on the provision of services or functions that are agnostic (or at least insensitive) to one or more traditional bounds of: capability, domain, program, context, or project phase/lifecycle—hence horizontally spanning traditional vertical ‘silos’. The function may be applied within the same capability vertical ‘bounds’ a number of times, or multiple verticals either simultaneously or at different times also in the project lifecycle. The key aspect is that the function being

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<sup>11</sup> Defence Submission 41, p.8

<sup>12</sup> ADFP 4.2.3, circa Australian Defence Glossary ID 70394

<sup>13</sup> [Business Function](#)

<sup>14</sup> [Defence Capability Manual](#)

<sup>15</sup> [Defence Capability Manual](#)

<sup>16</sup> [Gartner Glossary](#)

applied remains consistent, where other defining characteristics may be flexible to the delivery. In other words, the scope of the function is known, and other aspects are now variable - such as scale of the work, time frame or area of application.

This contrasts with traditional Defence contracting wherein a typical contract is issued to a prime in order to deliver a particular capability, which remains confined within one capability 'vertically', and applied at specific times and may cease to be provided upon delivery within the specific capability system. A conceptual overview of the relationship between traditional 'vertical' primes and a horizontal prime is detailed within Figure 1 below.

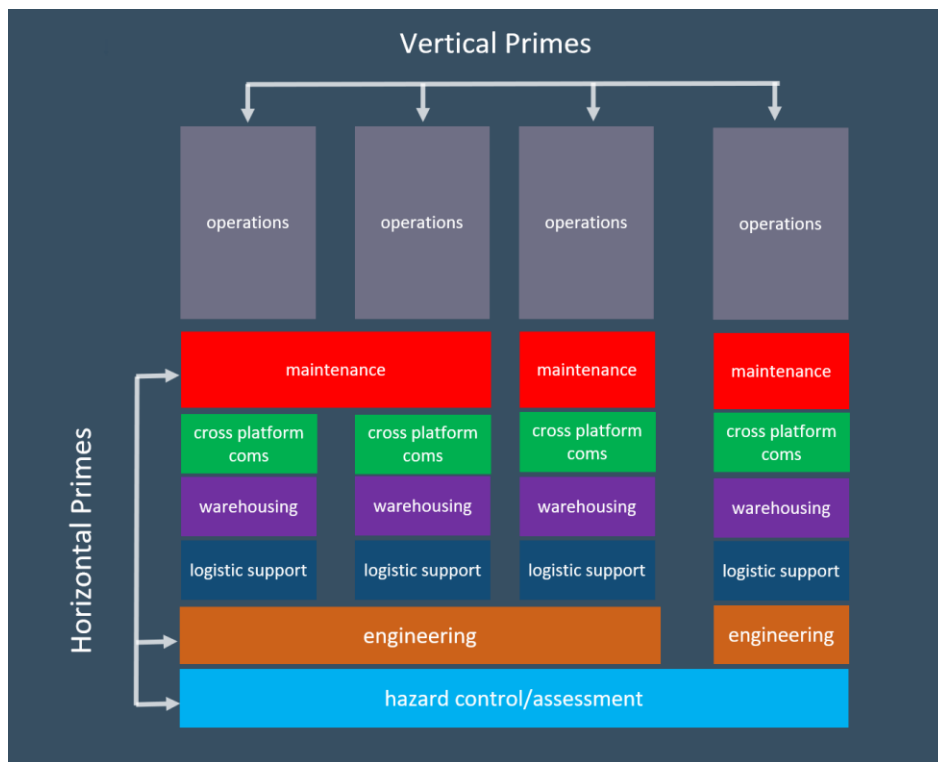


Figure 1—Conceptual Representation - Horizontal Prime

## 1.4 Project Scope

This document covers a high-level exploration of the horizontal prime as a model. This is limited to a theoretical study for lack of specific detail regarding application of the model to an Australian Defence context, nor does this attempt to apply the model to any specific context as the options are vast without detailed information both of a commercial and business nature (requiring inputs such as financial records, operational information, case studies, etc).

Another aspect that model does not consider is the complicated matter of intellectual property and trade control; how an entity that is providing a function across a capability that is encumbered in such a manner would result in requiring a specific regulatory context which is not covered here.

While there are exemplar functions within the international Defence context (such as the Long Term Partnering Agreement between QinetiQ and the UK Ministry of Defence<sup>17</sup>), specific information that supported a considered 'case study' was not available to the authors in a manner that facilitated robust assessment and conclusions to be drawn.

<sup>17</sup> [Test, Trials, Training and Evaluation](#)

## 2 Stakeholder Perspectives

### 2.1 Defence

#### 2.1.1 Capability Manager

The Capability Manager is responsible for both the development of future capability and management of existing resources through raising, training, and sustaining their particular capabilities, as directed by the Secretary and Chief of the Defence Force. The DCM identifies the following Capability Managers<sup>18</sup> (which are typically 3 Star/SES Band 3):

- Vice Chief of the Defence Force – Asymmetric and Advanced Warfighting;
- Associate Secretary – Defence Business Enterprise Architecture and Transformation
- Chief of Joint Capabilities – Joint Capability
- Chief of Defence Intelligence – Joint Intelligence, and Geospatial Information and Intelligence
- Chief of Navy – Maritime capability
- Chief of Army – Land capability
- Chief of Air Force – Air and Space capability
- Chief Information Officer – Enterprise ICT
- Deputy Secretary Estate and Infrastructure – Enterprise Estate and Infrastructure
- Chief Defence Scientist – Innovation and Science and Technology

Future capability considerations are identified needs or requirements that necessitate approval via Government – these capture the policies, logistics, training, personnel, and other supporting mechanisms to ensure success. This high-level management function develops and provides solutions that focus on the management of the interlinking functions and activities in the enterprise's strategic and current operational framework: inclusive of interdependencies such as the application of a Horizontal Prime concept.

Under a horizontal priming arrangement, a single contract is established by Defence with an entity. Contract management efficiency is realised as this model allows Defence, in aggregate, to reduce the overhead which comes from management of multiple contracts since services pertaining to a particular provider are not only aligned but steered to the provider. The Capability Manager therefore need only to call upon their services; the overheads associated to them for managing yet another relationship themselves becomes a shared responsibility, lessening the associated burden.

Such an arrangement may introduce a cost of reduced flexibility; the Capability Manager can no longer (at least, as easily) choose their providers or partners, they are compelled to use this supplier, with their particular needs, that may have strategically different objectives from the provider's current stream. The Capability Manager would also have to be made aware of all the current horizontal providers and make use of their services, instead of more simply establishing new relationships (even with existing suppliers).

Once a strategic and genuine provider agreement (partnership) is established, there is a large human element that comes into play; patriotic fervour, the fear of disappointment, common goals; language and confidence in understanding the outcome that ensures everyone stays honest. When done poorly, the bounds of the written verse within a contract are purely relied on, without moral obligation or responsibility—lacking innovation, under-delivering and often creating a 'status quo' performance across any measurable KPIs.

Having a sole source enables a consistent speciality of services across Defence, which the Capability Manager can rely on and ease the uncertainty with capability delivery. The Capability Manager can obtain insight as to the performance of the function provided as it will (in all likelihood) have been given across other areas within Defence, and therefore affirm they will receive a similar service. However, and conversely, being mixed in with the group may weaken the Capability Manager's individual influence over

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<sup>18</sup> Note: Director General Australian Signals Directorate is a statutory appointment directly responsible to the Minister for Defence, but exercises the Capability Manager role for Strategic Intelligence and Cyber

the supplier, so they should maintain an ability to track, record, and performance manage a supplier to assert their particular needs of the service provider in their own context.

This is where the Capability Manager and Lead Delivery Group need to ensure they are cooperating towards a mutually beneficial future state, altering parameters to ensure improvements are continuously made where necessary.

### **2.1.2 Lead Delivery Group (Capability Delivery organisation)**

The Capability Delivery organisation (defined within the DCM as the Lead Delivery Group – LDG) is responsible for coordinating and integrating the Fundamental Inputs to Capability (FIC) on behalf of the Capability Manager, as required to deliver the outcomes prescribed in the program or product delivery agreement. In delivering the products and services as designed, the LDG provides support and warranty across military equipment and supply requirements as identified by the Capability Manager (Defence) and approved by Government. The LDG reviews overall challenges, concerns, risks, and intricacies affecting key projects, whilst also reviewing the status of each in terms of cost, schedule and forecast scope delivery.

Since Defence services are subjected to demand fluctuations, aggregating aspects of candidate services under a horizontal prime arrangement can present opportunities for the Capability Manager and delivery group if they are able to opportunistically schedule the enterprise demands on the Horizontal Prime to smooth/flatten the traditional 'peak and trough' nature of service demands for various functions across a program/product lifecycle. The potential efficiencies becomes significant with a wider integrated master schedule.

Conversely, if the Lead Delivery Group is delivering capability across a key project (in their context) that is not viewed as a priority at the broader enterprise level, the LDF may be starved of the service whereas having a dedicated arrangement provides increased security over resources and increases their availability and reliability—at the cost of efficiency.

A horizontal prime would likely have a considered and specific scope to provide, and this would be determined in advance (or alongside) particularly capabilities. The advantage for the Capability Manager is that the scope of the service provider is clearly defined, known, and quantified. Their area of work and ownership is established, and the Capability Manager can exert their efforts on focussing on supplementing service across other FIC areas—an efficiency that may be expanded with further horizontal primes in separate domains.

This may be at the expense of flexibility, with a potentially increased likelihood of integration gaps and possibly a more inflexible scope of service provision—due to commercial or organisational complexity, the Horizontal Prime may not be readily adaptable to fulfil additional responsibilities as they may emerge in complex projects.

If a horizontal prime is established and operates for some time, it is likely the Capability Manager can rely on that service in terms of being a specialised asset base for providing that service, whilst the Lead Delivery Group can maintain the support in play—in other words, that provider becomes the expert in the domain because they endure and provide consistent service. That provides the Capability Manager and Lead Delivery Group confidence in the service provision for integration into capability planning and capability delivery.

Such an arrangement would need to be managed carefully, as the provider may (whether deliberately or through resultant market pressures) develop anti-competition behaviours, or create a market monopoly, leaving Defence would be beholden to the provider instead of having competitive markets drive behaviours that result in delivery efficiencies, reduced whole-of-enterprise cost and a high calibre of service provision.

## **2.2 Defence Industry**

When considering the implications of Horizontal Prime models to existing Defence Industry (particularly the relationship with, and implications for, existing Prime contractors) it was recognised that viewing the implications through a 'pro/con' assessment mindset was not appropriate—but that trade-off decisions would need to be carefully considered in the context of specific functions.



### **2.2.1 Scope Shift**

The separation of the functional scope from the existing vertical prime contractor to the new horizontal prime contractor will have a varying level of impact on the vertical prime's operations depending on a number of aspects.

This may have positive impacts if the function is one that does not sit within the vertical primes' core business capability or is a specialist function that they were previously outsourcing. If either of the above is true, the vertical prime will be able to simplify their procurement supply chains and can allow them to focus on other areas of their scope that they may be better resourced to fulfill.

Alternatively, if the function that they are now relinquishing to the horizontal prime was a core business offering they may now have lost high-value revenue from their vertical offering—something that may be commercially untenable and create tensions within the emergent multi-party relationship.

### **2.2.2 Workforce Profile**

On the assumption that an overall consolidation of an identified function across multiple areas of Defence will provide efficiencies through economies of scale, there should be a net reduction in the labour required to deliver the function—or increased capacity across the labour pool. This may help free up resources that can be utilised in other areas of the vertical prime's business, helping to alleviate some of the current labour shortage pains that industry is currently experiencing.

If, however the function is very specialist in nature, then the labour that it frees up may have a skill set that makes them difficult to re-mobilise into other areas of the business. These workers may require re-skilling or supplementary training to be able to be utilised in other areas, both of which come with associated costs. Conversely, a failure to re-mobilise within the existing prime structure (or market pressures created by the emergent horizontal prime) may result in either redundancy or consolidation of staff from the existing vertical prime to the emergent Horizontal Prime.

### **2.2.3 Knowledge and IP Management**

Introducing an additional party into a relationship that was previously a two-party engagement (Defence and the vertical prime) will introduce complexities associated with how the knowledge and Intellectual Property (IP) created/used to deliver the function is handled. This is further complicated if it includes sensitive commercial IP, product performance data or ITAR/Export Controlled data.

These frameworks would need to be established in such a way that all parties IP is protected and does not risk the accidental unauthorised export of controlled information (or unapproved use as background IP). It will also need to be operationally simplistic enough that it does not add a bureaucratic overhead causing a reduction in delivery speed and an increase in cost of doing business.

### **2.2.4 Change in Risk Profile**

With the change in delivery model there will be a change in the risk profile of the service being delivered. Overall, this may present opportunities for any project delivery risks being shifted to the party that is best positioned to minimise/mitigate this risk. This will require a holistic approach with engagement and ownership for all parties.

If not conducted in a considered, enterprise-level manner, the ineffective realisation may result in unacceptable (or un-known) risk cumulation or conversely it may drive risk-averse behaviours that result in inappropriately conservative risk allocations driving an overall cost increase.

### **2.2.5 Operations**

The introduction of one or more horizontal primes into the vertical primes' operational workflows is something that will need to be well understood and managed. It will require clear scope delineations for both parties to minimise the scope omissions or scope overlap, each of which may cause increased costs or poor schedule performance.

There will also need to be a greater level of governance from Defence to act as the 'facilitator' or 'governor' across the 3 parties—without simply acting as an intermediary. This may be in the form of defined

governing organisations (similar to the current Defence Fuel Services (FSB) branch or Maritime Integrated Warfare Services ranch), or a collaborative Program Management Office style approach. If this governance body is not established with a sufficient number of suitably skilled personnel, it may become a hinderance for the other parties to progress their scope.

## **3 Candidate Considerations**

### **3.1 Characteristics**

There are many factors that go into determining whether a function would be suited to being a horizontal prime. Through interviews, research, and evaluation of many contract characteristics there have been four foundational characteristics that are considered key criteria to provide a foundation for considering a candidate for employing the horizontal prime concept. It is acknowledged that there may be contexts whereby not all four criteria need to be met.

#### **3.1.1 Economy of Scale**

The function needs to be of sufficient size, such that the investment in the overhead attached to establishing and maintaining a horizontal prime Defence obtains a commensurate return on that investment. Similarly, the emergent prime would need to be able to realise some form of commercial benefit over current business opportunities—such as efficiency in training, retention, perhaps establishing a lower-risk centre of excellence around the function that may be sustained by the scale of the service delivery.

Without this a recognisable economy of scale is unlikely that Defence would see any benefit over the status quo—though it is acknowledged that there are other dimensions than financial by which ‘economy’ may be measured.

#### **3.1.2 Specialisation**

The function should be specialised and not something that is currently easily delivered by an existing vertical prime. This does not necessarily mean it has to be extremely technical, just that it may be outside the core capability of an existing vertical prime—or that there is a challenge in sustaining the skillset across the Defence labour market, particularly in light of broader market competition.

#### **3.1.3 Consistent Application of Function**

The function may necessitate consistency of application/delivery across Defence—particularly in the context of certification, accreditation, or integration. Under most horizontal prime models, there may be a loss of control at the local level, in a reduced ability to ‘tailor’ the service delivery. While this may have implications for control, increased consistency of function may lead to reduced integration risk, reduced assurance oversight and/or improved capability realisation.

#### **3.1.4 Enterprise Level Coordination**

In order to realise the potential of applying the Horizontal Prime model, it is likely necessary that the function is conducive to capability coordination and control (at least in the context of strategic planning and prioritisation) at the enterprise level. Such high level coordination is important to ensure that the function has the ability to work across the capability at the enterprise level to break-down silos and allow coordination of resourcing. Doing so will allow the prime to understand Defence’s key priorities and respond to changes and challenges quickly and efficiently across the enterprise—such as in the context of responding to contingencies and emergent capability deployment needs.

## 3.2 Exemplar Functions

This report investigates potential opportunities for which the Horizontal Prime concept could be utilised. These functions were explored through discussions with key members of Defence Industry, Defence Policy, and the industry experience of the authors.

Examples of more ‘infrastructure’ based Horizontal Prime functions have already been implemented across the Defence Enterprise. These include base maintenance, base security, canteen services and fire services. These areas have already been implemented as they tend to be less technical, easy to source from external providers and are unlikely to generate uncompetitive monopolies when it comes time to renew the contracts, and therefore it is important to acknowledge that functions which are wholly sustained by the Defence market (i.e., contrasting canteen services with threat technical intelligence) present different challenges—and opportunities—to implementing Horizontal Prime functions.

Additionally, there are instances where (internal to Defence), Horizontal functional provision already exists: the dedicated function of Aviation Life Support LMU (ALSLMU) in providing Aviation Life Support Equipment to all ADF aviation organisations; the dedicated function of the Joint Electronic Warfare Operational Support Unit (JEWOSU) in providing Electronic Warfare (EW) Operational Support to most ADF assets equipped with EW sensors or effectors; the dedicated functions of respective elements of DASA-DAVENG in providing defined Centre of Expertise (CoE) functions to the regulated Aviation community. Many more instances exist, where cross-domain, cross-system and/or cross service/branch function provision is centralised, coordinated, and delivered to meet enterprise level needs.

### 3.2.1 Test and Evaluation

Test and Evaluation (T&E) is used to obtain information to support the objective assessment of a system with known confidence and to confirm whether or not a risk is contained within acceptable boundaries, across all stages of a system’s life cycle.

Within Defence<sup>19</sup>, T&E is a fundamental element of managing capability. It is used by the managers of Defence capabilities to inform risk-based capability decisions, from consideration of concepts, through requirements setting, acquisition, introduction into service, whilst in-service and through to disposal.

T&E is speciality which assess a component, platform, or system to show conformance to standard, regulation or determined requirement which can be Australian specific. Acceptance and Operational T&E (AT&E and OT&E respectively) are functions which can often be conducted independently of Original Equipment Manufacturers and proprietary data. It is because of this those independent organisations can conduct T&E for and on behalf of Defence.

As well as what is stated above, T&E is considered a critical sovereign capability for Defence (refer the 2018 DICP). T&E is required across all domains Defence and is currently completed by a combination of ADF serving members, Australian Public Servants, and embedded Contractors. It should also be noted that generally T&E Services are not conducted by the contractors in charge of the support contracts of the component, platform, or system—due to either specialised nature of T&E or the necessity for independence. As a result of these factors, it is considered that T&E is a strong candidate for the employment of a Horizontal Prime model, as recognised through the AtM under CD-RFI-24943-1.

### 3.2.2 Logistics and Warehouse

The ADF currently relies on a complex network of Commonwealth owned facilities, contractor warehouses and third-party facilities to hold and store many of their systems, components and spare parts related to ADF assets. In addition to this they also use multiple contractors and ADF resources to provide logistic services for transport of items between warehouses, maintenance facilities and operators.

The management of these facilities and contracts is complex, costly and requires many logisticians to be employed by both Defence and Industry to ensure the systems function as required—often with parallel

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<sup>19</sup> [Defence Test and Evaluation Strategy](#)

duplication of effort across the enterprise. In addition to this many platforms utilise different logistic systems due to the supply pipeline which the item is being acquired or moved.

Defence is currently undertaking an Enterprise Resource Planning (ERP) program which should simplify the complex nature of Logistics and Warehousing; however, it is possible that many of the same complexities will still remain once the program is complete. The stated benefits of ERP are<sup>20</sup>:

- alignment and standardisation
- implement fit for purpose IT systems
- encourage better ways of working
- an integrated force structure view with measurable inputs to capability

The outcomes of the ERP program would be well suited to a Horizontal Prime concept. The benefits of the program would ensure that the synergies gained could allow a single contractor to provide Logistics and Warehousing gaining even more efficiency than the ERP program intends to gain. Even without the ERP program, Logistics and Warehousing would benefit from a single sourced contract as the variations and nuances which result from multiple systems and organisations would be removed.

While it would still be likely that Defence would require logisticians—both to ensure that they program component demands are met and to remain a ‘Smart Buyer’ in supporting governance and assurance functions—a single source of logistic support would greatly simplify the process and contract as well as allow greater efficiency of resources.

### 3.2.3 Fuel Management & Hazardous Chemical Management

**Fuel Management.** Fuel operations on Defence bases are currently managed by three organisations. Fuel Services Branch (FSB) provides a governance function and sets the rules and regulations for operating fuel on a Defence base. The Operating Authority (OA) is typically a combination of ADF and APS staff. The OA is responsible for the day-to-day operation of a fuel establishment including refuelling operations, testing and logistics. The Maintenance Authority (MA) is responsible for all maintenance of the fuel farm and is a role typically filled by a Contractor.

The current system adds complexity as there is significant overlap of responsibility between all three areas—leading to a challenge with scope distinction, duplication of effort and relationship management. Each of these challenges introduces risk and potential wastage.

The management and operation of Defence fuel across the enterprise and respective establishments may be a suitable candidate for outsourcing to a horizontal prime. Fuel management is an area that has very clear goals which makes setting clear and measurable KPIs easy. It is also something that is well supported in the wider industry, in particular mining. This means that it is less susceptible to becoming a monopoly due to broader market competition.

It is important to recognise that challenges of deployed fuel management—and how Defence could ensure fuel infrastructure and supply during the conduct of deployed Operation, Exercise or Trial. Currently. Options may include blended service offering (where Defence staff conduct ‘front-line’ fuel management) or extended/deployed service provision (where the Horizontal Prime provides fuel management services on a needs basis.

**Hazardous Chemical Management.** Similar to fuel services, Hazardous Chemical Management (HAZCHEM) is an area that is well supported in the wider industry. HAZCHEM is currently managed at the unit level and there is a lack of consistency in how individual units manage it. Having a single entity responsible for all hazardous chemical management across defence would provide consistency and a single point of accountability. The key consideration for converting HAZCHEM into a horizontal prime is similar to Fuel Services and how it will operate in a deployment scenario, however the potential economies across the enterprise may be quite significant, particularly considering the highly specialised and at times novel nature of the complexities attached to HAZCHEM management.

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<sup>20</sup> [Enterprise Resource Planning Program](#)

### 3.2.4 Aircraft Certification and Structural Integrity Services

**Aircraft Certification.** Aircraft certification within a Defence context is a function which is currently governed by the Defence Aviation Safety Authority (DASA), with specific activities conducted in support of DASA by respective DASR 21 organisations. DASA (through a delegate network) has the ability to accept certified design from Aircraft Original Equipment Manufacturers (OEMs) as well as provide some certification privileges to people and organisations as per the Defence Aviation Safety Regulations (DASR).

DASA provides assurance oversight to support attestation that the certification information provided with an aircraft or as part of an aircraft design change or modification meets the requirements to be certified under the DASRs as part of their regulatory function. The process of determining if the aircraft or change can be certified to meet the aircraft Type Certification Basis (TCB), as stated on the Australian Military Type Certificate or Supplemental Type Certificate, is done by Certification/Verification engineers which have been granted authority under the regulatory system governed and assured by DASA. These individuals may be DASA employees or may be broader Defence or Defence Industry professionals.

The role of the certification engineers is to compare the data provided to the applicable standards and regulations to ensure that the aircraft or change is considered airworthy. This process requires expert knowledge of the regulations and standards and needs to be conducted by individuals who are independent of the design process.

Delegation of certification privileges is common practice as part of DASR Part 21 J approvals and is generally granted to the organisation which holds the through-life support contract for a particular platform. This practice is heavily influenced by the challenges of Intellectual Property access but might not always be the case—particularly where demonstration of compliance to the standards and regulations can be completed using different methods such as test, assessment and inspection which do not require access to controlled IP.

As commercial IP is a closely guarded asset which is often subject to export control regulations and commercial controls, retransfer of intellectual property to support broader certification efforts often requires specific (and at times laborious) administrative overhead to establish governing and approval processes. As a result, establishing a Horizontal Prime model for Aircraft Certification may provide standard governance, control, and approval frameworks, limiting the instances of 'on-condition' relationships being established to support accreditation/certification activities. While it is not considered credible that DASA could be wholly replaced by a Horizontal Prime, it is anticipated that DASA would continue to play the dominant role in governance and assurance of the application of these functions.

**Aircraft Structure Integrity.** Similarly, to Aircraft Certification, Aircraft Structural Integrity (ASI) is a primary focus of DASA. DASA is required to ensure that all aircraft with Military Type Certificates issued under the DASRs meet their ASI requirements so that they can continue to operate.

ASI is a specialised field of Aerospace Engineering which considers how an Aircraft is flown and the rate of usage to estimate how components will fatigue and degrade. These estimates determine the ultimate life of the aircraft as well as critical maintenance requirements which ensure that the Aircraft is Airworthy and Safe.

ASI is currently conducted by multiple support organisations; QinetiQ Australia, who is classified as a Strategic partner to DASA and organisations which hold a Through Life Support (TLS) Contract for a platform, in addition to Defence 21J organisations.

As ASI is a speciality service, DASA utilises QinetiQ Australia's expertise, as a strategic partner, to provide information, guidance, and analysis from a governance perspective to DASA for all Aircraft types even if ASI is considered part of a platform TLS contract. It is because of this that ASI may already be considered a function, with opportunity for future expansion, which spans all Defence aircraft.

While there are aspects of ASI which are undertaken by the TLS contractors, if data considerations could be overcome, indigenous ASI services could be conducted by a single specialist organisation for all Aircraft across the ADF.

If Aircraft Structural Integrity Services were to be provided under a Horizontal Prime contract to Defence the industry would be able to leverage the speciality knowledge of an organisation while managing all ASI

under a single contract. This would enable Defence to grow the current Strategic Partner model currently in place between DASA and QinetiQ and allow Defence to better position to be prepared for the challenges which emerge within the ASI field as a result of future acquisition and sustainment models.

## 4 Model Behaviours

The Horizontal Prime concept may provide efficiencies and flexibility to both Defence and Defence Industry within Australia, however the governance and commercial models are assessed as requiring tailoring and development in (and for) the specific context of application. There can be no rigid construct or framework that will ensure success, but a set of 'model behaviours' of the respective parties and the relationship which are assessed as necessary to provide a foundation for successful concept employment. Four of the key behaviours identified are: Mutual Trust, Collective Maturity, Collaborative Attitudes, Transparency in Planning and Communications.

### 4.1.1 Mutual Trust

Trust is a critical behaviour that must be present between all parties to ensure that the Horizontal Prime Concept can be implemented successfully. The commercial partnership model must be built on a firm foundation of trust to ensure that Defence can believe that the contract requirements will be fulfilled on time, within budget and with defence's best interests in mind. It is likely that if there is not a suitable level of trust, the governing of the contract will reduce the efficiencies and flexibility benefits which the Horizontal Prime concept can deliver. It is widely recognised that assurance and resource apportionment should be commensurate with risk, and an absence of trust either increases or creates uncertainty in risk presented within the partnership.

### 4.1.2 Collective Maturity

The Horizontal Prime model must be established with mature organisations (or organisations which have suitable maturity management models and plans), inclusive of robust procedures, communication plans and understanding of the roles and requirements placed upon them. A mature organisation will be able to appropriately prioritise work and distribute the workforce appropriately to meet Defence's relevant strategic objectives—creating the preconditions for service or product delivery to be consistent, timely and fit-for-purpose. A lack of maturity creates a potential for breeding mistrust, developing inefficiency through sub-optimal process and may lead to increase resource costs, decreasing enterprise efficiency.

### 4.1.3 Collaborative Attitudes

Introducing a strategic stakeholder in the form of a Horizontal Prime creates a necessity for multiple collaborative relationships to be developed and nurtured, particularly when there is a possibility that the Horizontal Prime might not be a single existing organisation but a partnership or joint venture between various businesses of varying sizes, market dispositions and organisational maturity. Such a model may provide unique opportunities to develop Defence Industry Capability, while taking advantage of specialist knowledge bases that may be scarce. To achieve such outcomes, true collaboration between all stakeholders is critical. If collaboration is a key goal—and not a 'necessary evil'—of the enterprise, parties can focus on efficiency and identifying the aspects of the organisation best placed to deliver collective outcomes, in lieu of inefficient duplication of process or information silos.

### 4.1.4 Transparency in Planning and Communication

In order to support true collaboration, and build collective trust, transparent planning and communication is of critical importance—a challenge, which was recognised, during senior stakeholder engagement<sup>21</sup>, as creating inefficiencies in the current Major Service Provider (MSP) model. In order for a Horizontal Prime to raise, train and sustain its workforce, inclusive of remaining agile to meet emergent capability needs, there

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<sup>21</sup> Interview—Rodger Phillips / Richard Bell, Rian Whitby, Ty Borlace—14 Oct 22



must be open, ongoing, and wholly transparent planning and communication between respective stakeholders.

In the vein of genuine collaboration, ownership and accountability should be focussed on learning lessons and removing roadblocks to service delivery, and this is only enabled through transparent engagement. A relationship which becomes either transactional or 'guarded' and conducted at arm's length will challenge the success of the venture.

## 5 Conclusions

Considerate of the limitations to the scope of the exploration detailed above, the following conclusion are drawn, forming the basis for subsequent recommendations.

**Opportunity.** In the context of the challenging environment that Defence finds itself in, supporting Australia's sovereign defence needs (particularly the confluence of adversary, technology, and workforce landscapes) it is assessed that the Horizontal Prime model provides significant opportunity for Defence to better harness the latent capability of Defence Industry (and potentially relevant broader markets) to meet Defence capability delivery needs. This opportunity presents Defence the potential for enterprise-level development and employment of sovereign capabilities and allows a focus on the FPR recommendation to "Focus on core business [and do] only for itself what no one else can do more effectively and efficiently."

**True Partnership.** It is assessed that the model behaviours outlined above present articulation of a simple concept—the Horizontal Prime **must** be a true partner with Defence. Any engagement which is conducted at arms-length, or becomes transaction (or worse hostile), will not have the foundation necessary for success. The strategic partnership presented must be recognised by both parties as a positive-sum engagement, which can result in mutually beneficial outcomes which align to respective stakeholder's long term objectives.

**Benefit Outweighs the Costs.** While it is apparent that the model does not have universal application, it is assessed that a tailored, considered application for a suitable function presents an opportunity where the benefits outweigh the costs—as recognised by CASG's Director Strategic Panels in his statement that "If Defence can partner, and the provider behaves as a true partner, then the benefits do outweigh the risks"<sup>21</sup>.

## 6 Recommendations

To support concept progression, the following recommendation are tendered for consideration:

### **CASG Commercial Division, CASG** (in consultation with respective CM/R)

The model concept should be further explored, with particular attention paid to the establishment of tailorable commercial delivery and governance frameworks.

### **CASG Commercial Division, CASG**

Developed commercial engagement frameworks should cater for blended support models. These models may be conventional forms of collaborative enterprise (i.e., consortiums, collaborative ventures, alliances) or may be non-conventional (i.e., organisations that provide a spectrum of functions that may be conventionally defined as 'above-the-line' or 'below-the-line'. Such blended support models should allow tailoring at commencement but should also include change management processes for evolution throughout the life of the respective enterprise.

### **Joint Capabilities Group**

#### **Force Integration Division, VCDF Group**

Functions across Defence should be reviewed, in order to determine candidate functions and progress model development/consideration. Consultation throughout this process should be conducted via dedicated Defence Industry engagement, such as that currently underway for the T&E Strategic Industry Partner concept under CD-RFI-24943-1

## 7 Acknowledgements

Whilst acknowledgement is due to many Defence, Industry and Academic stakeholders, the authors would like to specifically acknowledge *Mr Peter Nugent (AeroPM)* for his guidance and input, in addition to the following contributing stakeholders.

CMDR Andrew Newman; CENGR NASPO; Royal Australian Navy

LTCOL Ilic; Royal Australian Corps Signals; Australian Army

Ryan Scott; Masters of Terrorism & Security; Vocus

Juliet Spratt; Executive Director Commercial Business Services; CIOG

Yvette Larter; Director of ICT Service Desk Governance; CIOG

Allan Dundas; CEO & Managing Director; DEWC Services

Jeremy Hulse; Executive GM; SAGE Group

AIRCDRE Blyth; (previously) OC SRSPPO; Royal Australian Air Force

Edward Choice; Head of Sales and Marketing; Airbus AP

GPCAPT Blagg; Cwllth ISR Precinct Lead; Royal Australian Air Force

Rodger Phillips; Executive Director Strategic Panels and Commercial Information; CASG

