Part 2. Defence Major Projects Report

Secretary's Foreword

I am pleased to provide the 2021-22 Major Projects Report, in conjunction with the Australian National Audit Office, on 21 Defence major capability acquisition projects, delivered by the Capability Acquisition and Sustainment Group.

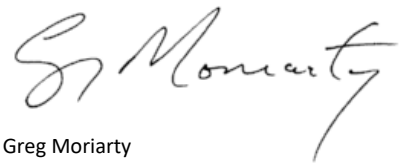
The 15th annual Major Projects Report provides transparency on the progress of Defence's most complex acquisition projects. The Major Projects Report is a valuable tool to inform the Parliament and Australian public on Defence capability and related expenditure.

As at 30 June 2022, Defence was managing 158 major and 10 minor acquisition projects in support of the Australian Defence Force with a total acquisition value of $130.5 billion.

The 21 projects within the 2021-22 Major Projects Report have a combined total approved budget of $59 billion and total in year budget of $5.9 billion. Of note are the following project achievements during 2021-22 which support delivery of important capability for the Australian Defence Force and wider Indo-Pacific region:

- Battlespace Communications System (JP 2072 Phase 2B) delivered three medium SATCOM terminals on 28 July 2021, that arrived in Australia from the United States (Boeing Defence Australia Testing and Integration Facility) on 23 August 2021.
- On 26 October 2021, Maritime Operational Support Capability (SEA 1654 Phase 3) declared Initial Operational Capability for the first Supply-class replenishment ship, HMAS Supply, and commissioned the second ship HMAS *Stalwart* in the Royal Australian Navy. HMAS *Stalwart* achieved operational capability in June 2022.
- HMAS *Sheean*, the fifth of the Collins Class Submarines to enter service in the Royal Australian Navy, entered dock to begin its two-year full-cycle docking on 4 June 2022.
- The first Arafura Class Offshore Patrol Vessel (OPV) NUSHIP Arafura was launched on 16 December 2021, marking a major milestone for the Offshore Patrol Vessel (SEA 1180 Phase 1).
- As at 30 June 2022, New Air Combat Capability (AIR 6000 Phase 2A/B) have accepted 53 aircraft.
- Two Guardian Class Patrol Boats (SEA 3036 Phase 1) were gifted to the Pacific Island Countries of the Federated States of Micronesia on 11 March 2022 and the Cook Islands on 27 May 2022. To date, 15 Guardian Class Patrol Boats have been delivered to their respective recipient nations.
- Battlefield Airlift – Caribou Replacement (AIR 8000 Phase 2) achieved the Final Materiel Release (FMR) and Final Operating Capability (FOC) milestones in June 2022.
- ANZAC Air Search Radar Replacement (SEA 1448 Phase 4B) achieved the Initial Operational Capability (IOC) milestone in July 2021.
- Combat Reconnaissance Vehicles (LAND 400 Phase 2) achieved the IOC milestone in June 2022.

I would like to take the opportunity to thank the Auditor-General, Mr Grant Hehir, and his staff for their contribution to the report.



Greg Moriarty
Secretary
Department of Defence
20 January 2023

OVERVIEW

As at 30 June 2022, Capability Acquisition and Sustainment Group (CASG) was managing 158 major and 10 minor acquisition projects at various phases in the Capability Life Cycle, worth a total acquisition cost of $130.5 billion. The 2021-22 acquisition budget of $9.5 billion was achieved, which was an increase of $0.2 billion from the prior year.

During this period, 12 major and minor acquisition projects were closed. These 12 closed projects had a final spend over their life of $2 billion, against a budget of $2.1 billion. CASG also had 10 new major acquisition projects approved with a combined budget of $2.1 billion.

The Major Projects Report (MPR) outlines 21 projects, delivered by CASG, with a total acquisition cost of $59 billion. This accounts for 45 per cent of CASG projects by total budget.

Scope of the ANAO review

The purpose of the MPR is to provide transparency and accountability of Defence acquisition for the benefit of Parliament and other stakeholders. The Australian National Audit Office conducts a priority assurance review of the information provided in the Project Data Summary Sheets (PDSS) at Part 3 of the report to provide confidence to the Parliament and other stakeholders that the information being provided by Defence is accurate and transparent.

The PDSS provided at Part 3 of this report disclose key project activity relating to cost, scope, schedule, risks and issues, and lessons learned up to 30 June 2022. Significant events that have occurred subsequent to 30 June 2022 are disclosed in the Statement by the Secretary of Defence and are detailed in Part 3 of the 2021-22 MPR.

Treatment of classified and sensitive information

In accordance with the JCPAA Guidelines, Defence is responsible for ensuring that the information in the MPR is suitable for unclassified publication. This year, in conducting the assessment of the security of the information, Defence assessed that some details, both in respect of independent projects and in the aggregate, would or could reasonably be expected to cause damage to the security, defence or international relations of the Commonwealth without sanitisation of the data.

There are four projects in this MPR (Offshore Patrol Vessel, Peregrine, SRGB Air Defence, and JORN Mid-Life Upgrade) where some schedule information has not been published in this report on security grounds. Defence has, however, provided the schedule information to the ANAO to conduct their assurance and analysis. The remaining 17 projects have the same level of information published as in previous years.

Key Achievements and Annual Performance

Overall, the performance of the Department's major capital equipment program in the 2021-22 financial year has been strong.

Key achievements this year include:

- Battlespace Communications System (JNT 2072 Phase 2B) delivered three medium SATCOM terminals on 28 July 2021, that arrived in Australia from the United States (Boeing Defence Australia Testing and Integration Facility) on 23 August 2021.
- On 26 October 2021, Maritime Operational Support Capability (SEA 1654 Phase 3) declared Initial Operational Capability for the first Supply-class replenishment ship, HMAS Supply, and commissioned the second ship HMAS *Stalwart* in the Royal Australian Navy. HMAS *Stalwart* achieved operational capability in June 2022.
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In respect of the acquisition projects managed by CASG in 2021-22:

- Achieved $9.5 billion in acquisition.
- Six achieved IOC, four on time or ahead of schedule[129].
- Seven achieved FOC, three on time or ahead of schedule delivery, in accordance with second pass approval.

The performance of the 21 MPR projects over the 2021-22 period has been largely consistent with the overall performance of the 158 major equipment projects managed by CASG.

[129] Note, this does not take into account re-baselined projects or all closed projects.

Entry and exit from MPR

Of the 21 projects included in this report, 20 projects have carried over from last year's report. One project has been removed as it had minimal budget remaining, and has delivered the majority of its required scope.

- Indian Ocean Region UHF SATCOM (JP 2008 Phase 5A).

There is one new inclusion to the MPR:

- Airborne Intelligence, Surveillance, Reconnaissance and Electronic Warfare (ISREW) Capability (AIR 555 Phase 1).

Appendix A lists the projects that have been removed from the report since its inception including the reason for their removal and expenditure, as at 30 June 2022.

The project additions and removals are in accordance with MPR Guidelines endorsed by the JCPAA in 2021 and are published in Part 4 of this report.

DEFENCE STRATEGIC ENVIRONMENT

Acquisition Environment

In this reporting period, there have been some significant events for Defence including support to Ukraine. The Ukraine Defence Military Aid (DMA) provided by the ADF was an unprecedented event. Support included both lethal and non-lethal capabilities that were provided either through gifting of current ADF assets or procured and delivered through third party agencies. All DMA provided was subject to legal and international rules to include the Geneva Convention, International Traffic in Arms Regulation and Australian Export Controls.

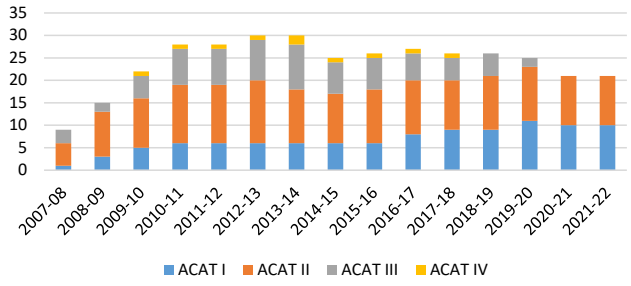
Defence and Industry have continued to equip and sustain the Australian Defence Force through the COVID-19 pandemic. As the world emerges from the pandemic, Defence and CASG have not been immune to ongoing supply chain challenges. The examples are well known across the country, such as computer chip shortages, and the ongoing freight capacity issues by both air and sea. The approach to shortages, such as chips, has been to take a whole of Defence view, and seek to use negotiation to deal with the priorities. Freight capacity shortfalls have driven up prices, and this has shifted some freight from now very high cost air freight, to slower, but lower cost, sea freight. However, these remain difficult management problems with sea freight schedule reliability remaining low, compared to pre-pandemic levels.

Defence and Industry continue to grapple with significant, and at times acute, workforce pressures – both capacity and skillsets. Allocating and managing workforce resources to ensure the appropriate level of resourcing from project start up and through life is critical to deal with skills scarcity.

Over the last decade the number of highest complexity (ACAT I) projects has increased from 11 to 24. Some of these projects carry extreme risk associated with the level of structural and technical complexity and integration (Appendix B refers).

Of the 21 projects in the 2021-22 MPR, ten are the highest complexity ACAT I and 11 are ACAT II. Whilst two[130] are cooperative programs with the United States Government, one has Foreign Military Sales (FMS) as the prime contract. In comparison, the 28 projects in the 2010-11 MPR comprised only six ACAT I and 13 ACAT II, with the remaining being ACAT III and ACAT IV projects. Five of these projects were Foreign Military Sales.

Figure 1 – ACAT complexity of MPR projects by year, as at 30 June 2022



[130] See AIR 6000 Phase 2A/2B and AIR 7000 Phase 1B.

Since the release of the 2016 Defence Industry Policy Statement, Australian Industry Capability (AIC) obligations have been updated in a range of Defence tenders and contracts. The 2019 Defence Policy for Industry Participation (DPIP) provides greater consistency, unity and opportunity for Australian industry involvement in Defence procurement. It establishes a framework to give Australian businesses the best possible opportunity to compete for Defence work, recognising that providing the best capability for Defence and value for money will continue to drive decisions. The AIC program is a major element of the DPIP. The AIC program plays an important role in driving Australian industry as a Fundamental Input to Capability and supports the delivery of the Sovereign Industrial Capability Priorities.

During 2021-2022 Defence has worked with industry to embed specific and measurable obligations in contracts under a consistent framework and undertaken a number of pilot AIC Plan audits to establish a better understanding of how the DPIP is being implemented across Defence industry.

DEFENCE REVIEW OF PROJECT PERFORMANCE

Cost

The Defence Chief Finance Officer provides overall financial assurance on the actual cost and budget data of individual projects included in this report. Project budgets approved by Government take into account the estimated impact of inflation over the life of a project, which is known as 'out turning'.

All financial data related to Defence's capital projects and capital programs provided with the 2021-22 Defence Portfolio Budget Statements, Portfolio Additional Estimates Statements, and Annual Report, are presented on an accrual basis.

The total in-year budget (2021-22) for all the projects listed in the 2021-22 MPR is $5.9 billion and total approved acquisition cost is $59 billion.

Table 1 lists the 21 projects by total Government approval from highest to lowest total approved budget.

Table 1: 2021-22 MPR Projects by Total Approved Budget, as at June 2022

#	Project Number	Project Name	ACAT	2021-22 In-Year Budget ($m)	Total Approved Project Budget ($m)
1	**AIR 6000 Phase 2A/2B**	New Air Combat Capability	I	1,754.4	15,795.7
2	**SEA 5000 Phase 1**	Hunter Class Frigate Design and Construction	I	531.1	6,055.7
3	**LAND 400 Phase 2**	Combat Reconnaissance Vehicles	I	370.0	5,606.3
4	**SEA 1000 Phase 1B**	Future Submarines Design Acquisition	I	961.7	4,816.2
5	**AIR 9000 Phase 2/4/6**	Multi-Role Helicopter	I	113.2	3,770.7
6	**SEA 1180 Phase 1**	Offshore Patrol Vessel	II	366.8	3,648.6
7	**LAND 121 Phase 3B**	Medium Heavy Capability, Field Vehicles, Modules and Trailers	I	74.2	3,399.6
8	**AIR 555 Phase 1**	Airborne Intelligence, Surveillance, Reconnaissance and Electronic Warfare Capability	II	306.5	2,233.6
9	**AIR 7000 Phase 1B**	MQ-4C Triton Remotely Piloted Aircraft System	II	269.7	1,999.5
10	**LAND 121 Phase 4**	Protected Mobility Vehicle – Light	I	338.5	1,962.9
11	**AIR 8000 Phase 2**	Battlefield Airlift – Caribou Replacement	II	74.9	1,421.6
12	**LAND 19 Phase 7B**	Short Range Ground Based Air Defence	II	144.2	1,216.3
13	**AIR 2025 Phase 6**	Jindalee Operational Radar Network	II	63.3	1,146.2
14	**SEA 1654 Phase 3**	Maritime Operational Support Capability	II	86.4	1,078.0
15	**AIR 5431 Phase 3**	Civil Military Air Management System	I	115.9	1,010.8
16	**LAND 200 Tranche 2**	Battlefield Command System	I	57.0	966.2
17	**JNT 2072 Phase 2B**	Battlespace Communications System	I	92.0	942.9
18	**SEA 1439 Phase 5B2**	Collins Class Communications and Electronic Warfare Improvement Program	II	33.8	610.1
19	**SEA 3036 Phase 1**	Pacific Patrol Boat Replacement	II	68.2	502.3
20	**SEA 1442 Phase 4**	Maritime Communications Modernisation	II	31.8	434.8
21	**SEA 1448 Phase 4B**	ANZAC Air Search Radar Replacement	II	22.0	429.2
			Total	**5,875.6**	**59,047.2**

Understanding Budget Variation

Real budget variations occur as a result of Government endorsed changes to scope, real cost changes and scope transfers between projects. Subsequent Government approvals leading to real project budget variation includes activities such as:

- Follow-on Second Pass approvals for additional phases of capability.
- Tranched or rolling approval processes that have been agreed by Government.
- Where projects have merged or transferred cost or scope to realise more efficient project management practices.

Foreign exchange rate variations do not represent real cost variations, as they are managed through funding adjustments on a 'no-win/no-loss' basis to offset realised foreign exchange losses or gains.

In some instances, Real Cost Increases (RCI) require a Government approved budget variation due to unplanned cost and/or scope variation. Historically there has been minimal requirement to apply RCIs to the project budget. There have been no RCIs in this reporting year for MPR projects.

In-Year Cost

Defence considers that the Final Budget Forecasts represent the baseline against which in-year project financial performance should be measured. The 21 projects in the 2021-22 MPR had a combined in year budget and forecast of $5.9 billion, with actual achievement of $5.7 billion. The overall financial variation was -$221 million or -4%. Appendix E further details total budget and in year budget status for each of the MPR projects.

In 2021-22 most of the 21 projects reported spending less than their annual budget allocation. The three projects with the largest variation between their final forecast and actual achievement are:

- SEA 1000 Phase 1B - Future Submarines Design Acquisition. In year expenditure of $1,143.9 million against a Final Plan expenditure forecast of $961.7 million. The variation is primarily due to the cancellation of the Attack Class submarine program and the resulting settlement payment to Naval Group.
- SEA 1180 Phase 1 - Offshore Patrol Vessel (OPV). In year expenditure of $231.4 million against a Final Plan expenditure forecast of $366.8 million. The variation is primarily due to the shift in deliverables, including the support system, and delay in current build performance.
- Air 555 Phase 1 - Long Range ISREW Aircraft. In year expenditure of $220.5 million against a Final Plan expenditure forecast of $306.5 million due to delay in flight testing on the baseline aircraft for this first of type capability and the subsequent deferral of milestone payments to 2022-23.

Schedule

CASG projects have continued to deliver successful capability outcomes, noting schedule remains the primary improvement focus. Defence set ambitious schedule targets to ensure it can provide the ADF with leading edge capability, which can sometimes result in schedule variation. Additional causes may include late delivery, increase in scope, a force majeure event or a deliberate management decision. Table E3 provides the detailed breakdown for the MPR projects.

Causes of Schedule Variation 2021-22

Schedule variations are reported based on the achievement of FOC. In most instances the programs are providing effective capability to the ADF prior to FOC.

Schedule variation in early milestones, such as IMR and IOC, do not necessarily result in a variation to the originally forecast FOC date. This is because schedule development will often accommodate overlap in design and production, long production lead times and the ability to redeploy assets or surge a workforce, as one phase is completed and another commences. There are a number of causes for these variations, including continuing impacts of COVID-19 and natural disasters affecting supply chains, resource availability, domestic and international travel restrictions and shutdowns. While some schedules have been impacted, the majority of projects continue without detriment. Other factors include changes in delivery scope, delays to interdependent projects, technical reliability, contractual negotiations and integration issues.

Of the 14 projects with published forecast FOC, five projects reported schedule variation to forecast FOC declaration during the year. The three projects with the largest variations are:

- MRH90 Helicopters (AIR 9000 Phase 2, 4 and 6) – ongoing capability delays have resulted in a revision of FOC. There has been significant work by both Industry and the Commonwealth to define and implement a series of capability block enhancements to bring the MRH90 to contracted standards. This included a retrofit program to progressively bring all aircraft up to the contracted standard.
- Battlefield Command System (LAND 200 Tranche 2) – The FOC date was extended to accommodate a Contract Change Proposal relating to COVID-19 Delay.
- Civil Military Air Traffic Management System (CMATS) (AIR 5431 Phase 3) – A highly complex and interdependent joint project has experienced challenges in technical complexity and interdependencies. The FOC date has extended with schedule milestones being actively reviewed and planned by the project and its contractual partners.

Materiel Scope and Capability

It is important to understand the difference between materiel scope and capability. A capability in Defence terms is 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. Materiel scope is the delivery of the materiel element of capability. Other fundamental inputs to capability, such as workforce, facilities or supporting IT infrastructure, are outside the materiel scope.

Calculating ‘expected scope delivery’ in a percentage term does not distinguish the relative impact some scope may have on overall capability, either up or down. Likewise, measuring the materiel delivery of a project against the final intended capability effect, without considering other fundamental inputs to capability, does not present a true picture of the forecast capability.

The ‘traffic light’ assessment of each element is indicative of:

- **Green**. A high level of confidence that the materiel scope outcome will be met.
- **Amber**. The materiel scope outcome being under risk, but still considered manageable and able to be met.
- **Red.** At this stage, the materiel scope outcome is unlikely to be fully met.
- **Blue.** An increase of materiel scope.

Of the 21 projects in this MPR:

- 11 projects reported 100 per cent in having a high level of confidence that the materiel scope outcome will be met (Green)
- Four projects are reported to have measures which are at risk (Amber)
- Two projects are reported to have both measures which are at risk (Amber) and an element that is unlikely to be fully met (Red)
- One project is reported to have both elements that are subject to risk (Amber) and an increase of materiel scope (Blue)
- One project is reporting an element that is unlikely to be fully met (Red)
- One project currently in the design phase, and has been not included, and
- One project that has been cancelled, and has not been included.

Table 2 - Details of Projects Reporting Amber or Red Measures

#	Project	Traffic Light	Narrative for Amber / Red Rating
1	**LAND 121 Phase 3B Overlander Medium/Heavy**	11% Amber	IOC was achieved with caveats due to delays in achievement of air certification. Achieving air certification by FOC remains a medium risk after mitigation. Schedule management remains a key focus and is being closely managed by CASG and the Capability Manager.
2	**LAND 200 Tranche 2 Battlefield Command System**	36% Amber	This reflects the non-delivery of aspects of the Elbit contract, specifically acceptance issues associated with the Battle Management System. Following the implementation of the Elbit BMS R1.1 Resolution Plan, the Commonwealth and Elbit agreed a Demonstration of BMS Release 1.1 performance. The Commonwealth and Elbit were unable to agree whether or not the issues were resolved by the Demonstration. The Commonwealth continues to work with Elbit to resolve open contract issues.
		16% Red	Based on direction from the Army program sponsor, the project does not expect to deliver the Weapon Integrated Battle Management System capability within the M1A1. Further, also based on direction from the Army program sponsor, the project does not expect to deliver the Hawkei General Service Vehicle node: this is offset by the direction from the Army Program Sponsor to increase the delivered quantities of Hawkei Command and control Vehicle and Manoeuvre nodes. Based on direction from the Army program sponsor, the Project will now only deliver 19 Protected Mobility Vehicle-Medium (PMV-M) Gate-Way vehicles. The remaining 38 PMV-M Gate Way vehicles originally within the Project's scope will now be delivered by the Land 4111 Phase 1 Protected Mobility Modernisation Project. This approach is expected to be confirmed following Government consideration.
3	**SEA 1180 Phase 1 Offshore Patrol Vessel**	0.4% Amber	The primary weapon system of the Offshore Patrol Vessel to conduct Constabulary Operations is the seaboats. The other weapon systems onboard are the main gun and two 50 calibre machine guns. A temporary change to the main gun size has had an operational impact.
4	**SEA 3036 Phase 1 Pacific Patrol Boat Replacement**	95% Amber	15 ships have been delivered and are currently operating in a very limited capacity. Six additional ships are potentially facing delays due to the imperative to rectify defects and enhance safety. None of this is considered to be a serious threat to the realisation of full capability.
		5% Blue	The additional ship will need to be entered into the project's scope along with some design and build modifications to enhance safety.
5	**LAND 121 Phase 4 Protected Mobility Vehicle - Light**	0.2% Red	In October 2021, Government approved the reduction to project scope of two Hawkei vehicles to support an export opportunity. This represents a reduction of 0.2% of the number of vehicles to be delivered by the Project. This reduction has not yet been updated within the MAA. Defence continues to support Thales' pursuit of export opportunities, and will receive royalty fees from any future overseas sales of the Hawkei.

#	Project	Traffic Light	Narrative for Amber / Red Rating
6	**AIR 6000 Phase 2A/2B Joint Strike Fighter**	1.0% Amber	AIR6000 Phase 2A/2B has options to deliver Maritime Strike capabilities in a timeframe closely following that of the United States Navy.
7	**AIR 9000 Phase 2,4 & 6 Multi-Role Helicopter (MRH) 90**	45% Amber	Supportability and capability assurance costs to life-of-type present future capability risk.
		35% Red	Rate of Effort (ROE) achievement continues to impact capability outcomes. The forecast cost of ownership out to the current life-of-type is unacceptably high.
8	**JNT 2072 Phase 2B Battlespace Communications System (Land)**	2.5% Amber	The Project is managing schedule risks associated with the Terrestrial Range Extension System (TRES) scope of work as expressed in the Materiel Acquisition Agreement and supporting suite of Capability Definition Documentation.

ACQUISITION GOVERNANCE

Performance Governance

Capability Acquisition and Sustainment Group governs and assures project delivery through a range of policies and practices in support of the One Defence Capability System.

CASG is implementing a range of enhancements throughout 2022-23 to the governance process for management and oversight of delivery performance, in support of Government's priority to enhance the early identification of performance risks and issues. This will include the establishment of an independent projects and portfolio management office within CASG, providing centralised delivery Group performance monitoring and reporting, to senior Defence stakeholders and committees, to Government and to external bodies.

Defence is implementing a revised Projects of Concern and Interest regime, including formal processes and 'early warning' criteria for placing projects on the Projects of Concern and Projects of Interest lists, and establishment of regular summits with industry to discuss remediation plans. This will be supported by fostering a culture of raising attention to emerging problems and encouraging and enabling early response, with projects experiencing performance issues provided the support needed to recover performance.

Project Performance Reporting

CASG continues to evolve its performance reporting to ensure that it is timely and informative in assisting leaders in overseeing and assuring the performance of their projects and products. CASG's acquisition and sustainment performance features in Portfolio Budget Statements, Portfolio Additional Estimates Statements and the Defence Annual Report, including commentary the Top 30 Projects and Products. Defence also relies upon existing governance mechanisms such as annual budget processes, enterprise committee accountabilities, and One Defence Capability system processes to ensure the timely and accurate reporting to decision makers.

Managing Underperformance

Projects of Concern is an enduring framework that remains a valuable tool to escalate projects for more senior management of complex issues within Defence and with Industry. Projects (or sustainment activities) identified as a Project (Product) of Concern have technical, commercial, cost or schedule challenges that benefit from additional senior executive and Ministerial support. The process allows Defence, Defence Industry and Ministers to work together to establish remediation actions with the primary objective being to return the project to the usual management framework.

The status of Projects of Concern is as follows:

- MRH 90 Multi Role Helicopter (AIR 9000 Phases 2, 4 and 6) – the project was first reported as a Project of Concern in November 2011 and continues to be managed as such.
- Deployable Defence Air Traffic Management and Control System (AIR 5431 Phase 1) – the project was first reported as a Project of Concern in August 2017 and its improved performance resulted in the Minister for Defence Industry announcing its removal from the list on 27 October 2022.
- Civil-Military Air Traffic Management System (AIR 5431 Phase 3) – the project was listed a Project of Interest in June 2018, and its elevation to a Project of Concern was announced by the Minister for Defence Industry on 27 October 2022. A Ministerial Summit to discuss this project was held on 2 December 2022.

Projects (and products) showing heightened risks in the areas of cost, scope, schedule, capability, commercial strategy and/or other issues are monitored through a variety of sources. Consultation with senior stakeholders occurs before determining a Project of Interest. Once listed, reporting requirements are increased with a more detailed summary of issues, along with progress on remediation strategies to get the project/product back on track. The Projects of Interest 'list' is used for internal departmental and Ministerial reporting and management purposes. The broad goal is to provide senior management oversight, returning projects to satisfactory performance, and preventing further deterioration of delivery parameters.

Agreements

Within CASG, Materiel Acquisition Agreements (MAAs) are project delivery agreements for monitoring and reporting on the current Government-approved scope, schedule and cost. The MAA is the foundational governance artefact in the Defence Enterprise Project Performance Reporting Framework.

As the Defence Transformation Strategy, Data Strategy and the Enterprise Resource Planning project is implemented, Defence will continue to adapt the MAA templates as required. Product Delivery Agreements (PDA) were intended to replace Material Sustainment Agreements (MSA) and MAA tracing to capability programs, however the implementation of programmatic agreements continues to be reviewed.

Smart Buyer

Defence's Smart Buyer program supports projects and products in their early planning phases through consideration of key strategy drivers, which in turn supports the development of robust project execution strategies. Within CASG, these strategies are subsequently tested in the Independent Assurance Review (IAR) that follow.

Whilst the primary role of Smart Buyer is to set-up projects for success, the methodology is flexible and has been adapted to address a variety of situations, including where support is required to establish programs, or where services or sustainment activities are contemplated. The Smart Buyer program is an example of the One Defence approach to capability acquisition with the program formally undertaking workshops with all three major delivery groups (CASG, Chief Information Officer Group and Estate and Infrastructure).

During 2021-22, there were 194 Smart Buyer workshops, in support of 97 projects / programs Gate 0, 1 or 2 activities.

The Smart Buyer framework was not used at the Second Pass government approval stage for the one project entering the MPR in 2021–22, AIR 555 Phase 1 (Peregrine). Smart Buyer activity has been conducted during the financial year for project SEA 1180 Phase 1 (Offshore Patrol Vessel) and considering AIR 555 Phase 1 (Peregrine) and AIR 7000 Phase 1B (Triton), as part of Intelligence, Surveillance and Reconnaissance Program considerations.

Independent Assurance Reviews

IARs consider the health and outlook of projects throughout their life. Depending on the risks or issues identified during the course of the review, which in all cases will consider the key aspects of certainty of scope, credibility of schedule and adequacy of funding, a formal Board meeting may be held to better understand the positions of the various parties. The Board Chairperson makes recommendations or proposes actions for senior management consideration regarding the ongoing conduct of the project or product under review, including whether it should be considered a candidate for elevation to Project of Interest or Project of Concern status. In 2021-22, 111 IARs were conducted, covering 150 project phases or sustainment activities.

Both the Smart Buyer and IAR programs draw on a common pool of experienced external reviewers. Recent additions to the pool have expanded both numbers and skillsets available, enabling the programs to better meet rising demand across Defence. Review Board members have extremely varied professional backgrounds but typically have extensive senior management experience gained in either the Australian Public Service, ADF, Industry or Academia, and have a very sound understanding of Defence, CASG and Government processes.

Risk Reform

The CASG Risk Reform Program was acknowledged as complete by CASG senior management in March 2022. The program modernised CASG risk management practices by delivering a Risk Management System that:

- standardised application of the ISO31000:2018 risk management process;
- defined the level and depth of risk planning for specific project, product and business scenarios;
- introduced a common risk language;
- standardised the format for risk planning;
- provided a selection of appropriate methods, techniques and approaches; and
- incorporated an information management system that enables enhanced risk-based decision making.

The CASG Risk Management Directive, Strategy and Framework (published June 2020), CASG Risk Management Manual (published August 2021) and CASG Risk Management Practical Guide (published March 2022) were delivered under the CASG Risk Reform Program. The CASG Risk Management Manual mandates the use of the CASG risk tool (*Predict!*) for new and existing projects[131], products and business areas moving the Group to a common and modern risk management platform and retiring the use of offline spreadsheets.

Alongside the updates to policy, practice and systems, reform was aided by the establishment of a Group-wide risk management community of practice, domain risk management working groups, and additional training offerings to risk practitioners on using the now mandated system.
Following completion of the reform program the CASG risk community and its practitioners are focussed on uplifting conformance with mandated practices via targeted communications, on the job training and advice and the continuous update of policy and practice documentation to improve understanding and conformance.

Project and Product practices include requirements to regularly review and adjust/validate risks under management at the project and product level. Monthly Project and Product performance review meetings can access project and product specific risk data sourced from and maintained in the *Predict!* system. This data is also available for other management and review activities, such as IAR.

[131] Some projects and products scheduled to complete activities in FY21-22 were exempted from the requirement to transfer to using *Predict!*.

Appendix A – List of Projects Removed from the Major Projects Report, since Inception

Table A1 - List of Projects Removed from the Major Projects Report, since Inception

#	Project Number	Project	First Reported in the MPR (FY)	Last Reported in the MPR (FY)	Government Approved Budget ($m)	Expenditure to Date of exit from MPR ($m)	Remaining Budget as at exit from the MPR($m)	FMR Achieved / Forecast as at exit from MPR	FOC Achieved / Forecast as at exit from MPR	Reason for Exit
1	**JP 2008 Phase 5A**	Indian Ocean Region UHF SATCOM	2010-11	2020-21	421.3	385.2	36.1	Sep-21	Mar-22	JCPAA Approval
2	**SEA 4000 Phase 3**	Air Warfare Destroyer Build	2008-09	2019-20	9,093.4	8,260.7	832.7	Jun-20	Jun-21	JCPAA Approval
3	**AIR 7000 Phase 2B**	Maritime Patrol and Response Aircraft System	2014-15	2019-20	5,574.1	4,343.6	1,230.5	Jun-22	Jun-22	JCPAA Approval
4	**AIR 5349 Phase 3**	EA-18G Growler Airborne Electronic Attack Capability	2013-14	2019-20	3,436.4	2,843.3	593.1	Aug-22	Aug-22	JCPAA Approval
5	**AIR 9000 Phase 8**	Future Naval Aviation Combat System Helicopter	2011-12	2019-20	3,003.7	2,520.0	483.7	Dec-23	Dec-23	JCPAA Approval
6	**LAND 53 Phase 1BR**	Night Fighting Equipment Replacement	2018-19	2019-20	561.8	459.0	102.8	Mar-23	Sep-23	JCPAA Approval
7	**SEA 1439 Phase 3**	Collins Class Submarine Reliability and Sustainability	2009-10	2019-20	444.5	412.1	32.4	Dec-22	Jun-23	JCPAA Approval
8	**SEA 1448 Phase 2B**	ANZAC Anti-Ship Missile Defence (2B)	2009-10	2018-19	678.6	645.4	33.2	Nov-18	Jun-19	FOC achieved
9	**AIR 7403 Phase 3**	Additional KC-30A Multi-role Tanker Transport	2015-16	2018-19	873.7	662.3	211.4	Oct-19	Dec-19	JCPAA Approval
10	**JP 2048 Phase 3**	Amphibious Watercraft Replacement	2013-14	2018-19	236.8	183.3	53.5	Dec-16	Nov-19	JCPAA Approval
11	**JP 2048 Phase 4A/4B**	Amphibious Ships (LHD)	2008-09	2018-19	3,092.4	2,875.6	216.8	Oct-19	Nov-19	JCPAA Approval
12	**JNT 2072 Phase 2A**	Battlespace Communications Systems Phase 2A	2012-13	2018-19	427.9	376.2	51.7	Jan-19	Dec-19	JCPAA Approval
13	**JP 9000 Phase 7**	Helicopter Aircrew Training System	2015-16	2018-19	481.6	385.8	95.8	Apr-19	Dec-20	JCPAA Approval
14	**LAND 75 Phase 4B**	Battlefield Command System	2015-16	2017-18	316.4	280.8	35.6	Dec-17	Dec-17	FOC achieved
15	**SEA 1429 Phase 2**	Replacement Heavyweight Torpedo	2009-10	2017-18	428.7	337.5	91.2	Oct-18	Dec-18	JCPAA Approval[132]
16	**SEA 1439 Phase 4A**	Collins Replacement Combat System	2007-08	2017-18	438.8	438.8	-	Oct-18	Dec-18	JCPAA Approval[133]
17	**SEA 1448 Phase 2A**	ANZAC Anti-Ship Missile Defence (2A)	2009-10	2017-18	386.7	379.6	7.1	Jul-18	Aug-18	JCPAA Approval[134]
18	**AIR 9000 Phase 5C**	Additional Medium Lift Helicopter	2010-11	2016-17	637.8	448.2	189.6	Jul-17	Jul-17	FOC achieved
19	**LAND 116**	Bushmaster Protected Mobility Vehicle	2007-08	2016-17	1,250.6	1,036.1	214.5	Oct-17	Jan-17	FOC achieved

[132] Approval granted in 2018 based on a risk assessment performed CASG and endorsed by the Capability Manager, which concluded the overall risk rating for remaining work was low.
[133] Approval granted in 2018 based on a risk assessment performed CASG and endorsed by the Capability Manager, which concluded the overall risk rating for remaining work was low.
[134] Approval granted in 2018 based on a risk assessment performed CASG and endorsed by the Capability Manager, which concluded the overall risk rating for remaining work was low.

#	Project Number	Project	First Reported in the MPR (FY)	Last Reported in the MPR (FY)	Government Approved Budget ($m)	Expenditure to Date of exit from MPR ($m)	Remaining Budget as at exit from the MPR($m)	FMR Achieved / Forecast as at exit from MPR	FOC Achieved / Forecast as at exit from MPR	Reason for Exit
20	**LAND 121 Phase 3A**	Overlander Vehicles (Light)	2009-10 (Ph 3) 2012-13 (Ph 3A)	2016-17	1,017.6	900.5	214.5	Oct-16	Oct-16	FOC achieved
21	**AIR 87**	Armed Reconnaissance Helicopter	2007-08	2016-17	1,867.8	1,867.8	-	Mar-14	Apr-16	FOC achieved with Caveats
22	**AIR 5402**	Air to Air Refuel	2008-09	2015-16	1,818.7	1,764.3	54.4	May-16	Jul-16	FOC achieved
23	**AIR 5077 Phase 3**	Wedgetail	2007-08	2014-15	3,881.2	3,754.4	126.8	Feb-15	May-15	FOC achieved
24	**LAND 75 Phase 3.4**	Battlefield Command Support System	2010-11	2014-15	315.7	271.9	43.8	Mar-15	Apr-15	JCPAA Approval
25	**AIR 5376 Phase 2**	F/A 18 Hornet Upgrade	2007-08	2013-14	1,882.5	1,663.8	218.7	Sep-12	Oct-14	FMR achieved
26	**JP 2008 Phase 4**	Next Generation SATCOM Capability	2009-10	2013-14	869.5	569.1	300.4	Jun-14	Jul-15	FMR achieved
27	**LAND 17 Phase 1A**	Artillery Replacement	2010-11	2013-14	158.5	158.5	-	Sep-13	Oct-14	FMR achieved
28	**AIR 5418 Phase 1**	Follow On Stand Off Weapon	2009-10	2013-14	319.0	287.1	31.9	Sep-13	Jan-14	FOC achieved
29	**JP 2043 Phase 3A**	High Frequency Modernisation	2007-08	2013-14	580.2	498.1	82.1	Nov-17	Nov-17	JCPAA Approval[135]
30	**SEA 1390 Phase 2.1**	Guided Missile Frigate Upgrade Implementation	2007-08	2013-14	1,453.8	1,374.7	79.0	Mar-16	Mar-16	JCPAA Approval[136]
31	**SEA 1390 Phase 4B**	SM-1 Missile Replacement	2010-11	2013-14	416.1	356.5	59.7	Feb-15	Jun-15	JCPAA Approval[137]
32	**AIR 5349 Phase 1/2**	Bridging Air Combat Capability	2008-09	2012-13	3,661.4	3,045.9	615.5	Dec-12	Dec-12	FOC achieved
33	**SEA 1444 Phase 1**	Armidale Class Patrol Boat	2007-08	2012-13	537.2	530.3	6.9	Nov-07	Oct-12	FOC achieved
34	**LAND 19 Phase 7A**	Counter-Rocket Artillery and Mortar	2011-12	2012-13	265.7	186.1	79.6	Jan-13	Jan-13	FOC achieved
35	**AIR 8000 Phase 3**	C-17 Heavy Airlift	2008-09	2011-12	1,423.4	1,423.4	-	Dec-11	Dec-11	FOC achieved
36	**AIR 5376 Phase 3.2**	F/A 18 Hornet Upgrade Structural Refurbishment (Hornet Refurb)	2008-09	2010-11	319.1	319.1	-	N/A	N/A	JCPAA Approval[138]

[135] Approval granted in 2014 based on a risk assessment performed by the then DMO and endorsed by the Capability Manager, which concluded the overall risk rating for remaining work was low.
[136] Approval granted in 2014 based on a risk assessment performed by the then DMO and endorsed by the Capability Manager, which concluded the overall risk rating for remaining work was low.
[137] Approval granted in 2014 based on a risk assessment performed by the then DMO and endorsed by the Capability Manager, which concluded the overall risk rating for remaining work was low.
[138] Approval granted after project scope and budget were approved for transition to the in-service sustainment support system in 2010-11.

Appendix B - Acquisition Complexity Categories

Defence categorises its acquisition projects to enable it to differentiate between the complexities of business undertakings, focus management attention, provide a basis for professionalising its workforce and facilitate strategic workforce planning. Projects are graded into one of four acquisition categories (ACATs):

- **ACAT I.** These are major capital equipment acquisitions that are normally the ADF's most strategically significant. They are characterised by extensive project and schedule management complexity and very high levels of technical difficulty, operating, support and commercial arrangements.
- **ACAT II.** These are major capital equipment acquisitions that are strategically significant. They are characterised by significant project and schedule management and high levels of technical difficulty, operating, support arrangements and commercial arrangements.
- **ACAT III.** These are major or minor capital equipment acquisitions that have a moderate strategic significance to the ADF. They are characterised by the application of traditional project and schedule management techniques and moderate levels of technical difficulty, operating, support arrangements and commercial arrangements.
- **ACAT IV.** These are major or minor capital equipment acquisitions that have a lower level of strategic significance to the ADF. They are characterised by traditional project and schedule management requirements and lower levels of technical difficulty, operating, support and commercial arrangements.

As the complexity of a project will vary over its life cycle, Defence reviews project acquisition categories at defined milestones between entry into the Integrated Investment Program and project completion.

The ACAT framework provides a recognised, consistent and repeatable methodology for categorizing projects and aligning project managers' certified experience and competencies to the complexity and scale of projects under management.

The ACAT level of a project is assessed against six project attributes:

- **Acquisition Cost.** The approved budget for the project.
- **Project Management Complexity.** The complexity of project management necessary for its execution.
- **Schedule Complexity.** The inherent complexity brought about by delivery pressures on the project.
- **Technical Difficulty.** The complexities associated with technical undertakings such as design and development, assembly, integration, test and acceptance.
- **Operation and Support.** The complexity associated with preparing the organisation and environment in which the system will be operated, supported and sustained.
- **Commercial Experience.** The readiness and capability of industry to develop, produce and support the required capability, and the complexity of the commercial arrangements being managed.

Appendix C – One Defence Capability System

The Capability Life Cycle commenced in April 2016 to address First Principles Review Recommendation 2, which called for Defence to 'Establish a single end-to-end capability development function within the Department to maximise the efficient, effective and professional delivery of military capability'. The Capability Life Cycle has now been effectively integrated with other capability processes, such as program management, interoperability and force design, resulting in the One Defence Capability System.

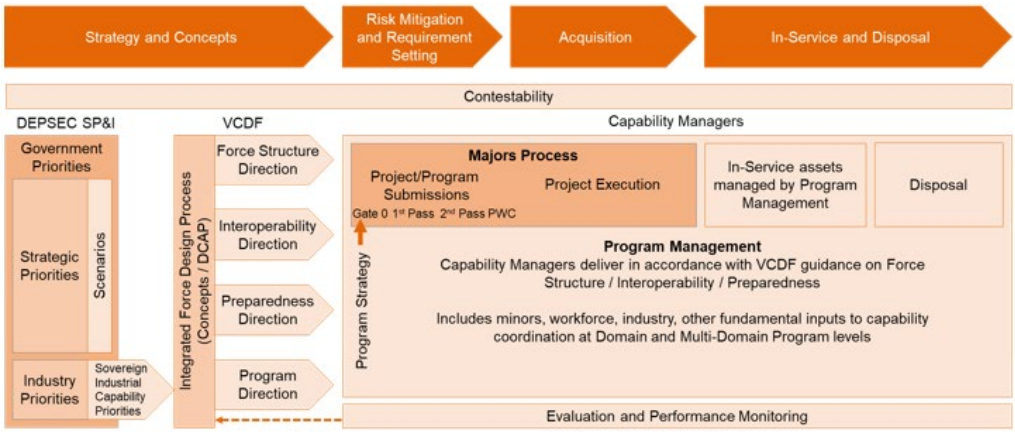
The One Defence Capability System is an integrated system that ensures Defence capability decisions optimise capability outcomes within resource limitations. The One Defence Capability System progresses through four phases shown in Figure C-1, which connect Government's priorities through to prepared forces that are available to be committed to operations. At any point in time, individual capabilities will be at different stages of maturity across the four phases. The phases are:

- **Strategy and Concepts phase** which connects the Government's assessment of strategic risks and other priorities, through to alternative concepts and force design.
- **Risk Mitigation and Requirement Setting phase** which sees development of solutions to address the priorities identified through Integrated Force Design, including options, detailed specifications and risk management strategies.
- **Acquisition phase** which sees the capability acquired, delivered, integrated, and brought into service.
- **In-Service and Disposal phase** which sees the maintenance of capabilities at the appropriate level of preparedness, in accordance with the CDF's Preparedness Directive, available to be force-assigned to Chief of Joint Operations, or other operational commander, as required for operational employment.

The projects in this year's MPR are in the Acquisition stage, but refer to decisions made in the Risk and Requirement Setting stage. Details about the Gates and Passes are listed below:

- **Gate Zero.** The decision point at which the Investment Committee considers an investment proposal developed by a Capability Manager. It may agree to a proposal to develop a range of options with agreed timeframes, requirements and financial commitments to proceed to a Gate 1 decision, or, agree a single option for acceleration to proceed directly to Gate 2.
- **Gate One.** If required, it is the decision point where the Investment Committee considers the progress made since Gate 0. The Investment Committee either clears the proposal for Government consideration, or provides direction to remediate projects.
- **First Pass.** If required, it is the Government decision to select a specific option(s) and proceed with agreed timeframes, technical requirements and financial commitments to Gate 2.
- **Gate Two**. The stage where the Integrated Project Manager initiates formal engagement with industry, in accordance with the agreed delivery strategy. The Investment Committee considers the updated proposal and either clears the proposal for Government consideration (Second Pass), or provides direction to remediate projects.
- **Second Pass.** A final milestone in the Risk Mitigation and Requirement Setting and Planning Phase at which point Government endorses a specific capability solution and approves funding for the Acquisition and In-Service and Disposal Phases.

Figure C1: One Defence Capability System



DCAP *Defence Capability Assessment Program*
DEPSEC SP&I *Deputy Secretary Strategy, Policy, and Industry*
PWC *Public Works Committee*
VCDF *Vice Chief of the Defence Force*

Appendix D - Lessons Learned

The 2021-22 Guidelines state that '*for each project which has been removed, the lessons learned at both the project level and the whole-of-organisation level should be included as a separate section in the following Defence MPR.*'

Table D1 - Lessons Learned

#	Project	Categories of Systemic Lessons	Project Lesson
Projects Exited from the MPR, for 2021-22			
1	**JP 2008 Phase 5A Indian Ocean Region UHF SATCOM**	Procurement Planning	The genuine ability of the vendor to achieve the contracted requirements must be assessed and validated prior to Contract and the engineering capability of the company, based on proven past performance, and a high level of engineering discipline and accreditation demanded.
		Leadership	When negotiating an MOU, be a smart buyer. The SATCOM Capability Manager should thoroughly understand the terms of future MOUs including costs, responsibilities, capability limitations, and administrative overheads.
		Capability Outcomes	Partnering imposes limitations but also increases ADF SATCOM capability. Collaborating with the US has provided Australia with an exceptional capability that would have otherwise been unachievable. The benefits available through international collaboration should be considered.
		Risk, Issues and Opportunities	Additional SATCOM capacity can be traded. The ADF traded excess UHF capacity on IS-22 for capacity on US satellites and the trade advantages of acquiring sovereign capacity additional to ADF needs, against the cost of acquisition and ownership is to be considered.
		Schedule	External factors including US Joint Interoperability Test Command (JITC) can significantly impact schedule and it is prudent to include a significant allowance within the schedule to better absorb unforeseen delays.
Previously Exited Projects Still Reporting Significant Events[139]			
2	**AIR 5349 Phase 3 EA-18G Growler Airborne Electronic Attack Capability**	Resourcing	For appropriate management according to Defence best practice benchmarks, allocation of project management resources is required immediately on project approval, particularly for projects with primarily FMS acquisition strategies. These projects inherently experience significant lag between Second Pass approval and schedule and financial management maturity, due to the lag between FMS case establishment and initial prime acquisition contracts when compared to commercially based acquisitions. The delay in achieving maturity benchmarks are only exacerbated when resourcing is not applied early in the acquisition life cycle.
		Resourcing	Workforce planning considerations need to capture project drawdown and closure resourcing requirements. If the project workforce is reduced too early, or if key roles are not maintained there is risk to project performance and good governance.
3	**AIR 7000 Phase 2B Maritime Patrol and Response Aircraft System**	Contract Management	The signed PSFD MoU does not provide explicit detail on those activities which will be undertaken in the interests of both nations by the CP (paid for by shared funding) and those which are Australian unique (paid for in addition to the shared financial contribution). Clearer definition of this division in the MoU would have avoided the post-signature negotiation required to resolve this ambiguity.
		Contract Management	Precision of description about what is included under the PSFD MoU.
		Contract Management	Scope of the MoU, does not contemplate other USN organisations (NAVSUP, SPAWAR). Consider how support from other US agencies can be assured.
		Contract Management	Use of a US Cooperative Program contract support model should be used with caution, if the activity will be subcontracted primarily back to Australian Industry to support. Consider direct contract arrangements within Australia, with 'reach-back' to US CONUS OEM as required if IP, export and data support can be assured.
		Contract Management	Export controls need to be closely monitored to ensure the articles receive appropriate Congressional approval in time for shipment, particularly for classified items.
		Contract Management	Procurements through different parts of the USN organisation have different schedules and may take significantly longer than others. Ensure the contracting processes and timelines for the organisation conducting the contract management are well understood, before beginning the Procurement Process.
		Requirements Management	The CP model has allowed Australia to work closely with the USN in the future requirements definition and planning for the P-8A. This has been to the significant mutual benefit of both the USN and Australia.

[139] These lessons are correct as at the time of the project's exit from the MPR and continue to remain in this table as they still have a requirement to report within the Secretary's Statement. These projects will exit this table when they exit the Secretary's Statement

#	Project	Categories of Systemic Lessons	Project Lesson
		Requirements Management	Greater focus in regards to Australian Industry involvement within MoU.
		Requirements Management	Airworthiness Certification of USN product may not meet Australian WHS requirements. Consider what SFARP approach needs to be taken when introducing into service.
		Requirements Management	When interfacing with US ICT organisations, it is very difficult to arrange access with the correct subject matter experts. Consider strong relationships under a cooperative program to ensure the right people are making decisions.
		Requirements Management	SATCOM connectivity and who pays for each segment is rarely clear. Ensure ownership of each data segment is well understood.
		Requirements Management	SPAWAR manages a large number of components in the TOC across the USN, of which only a small number are needed for an aircraft platform. As a consequence, large numbers of 'common' TOC components may be changed as part of a suite of TOC upgrades across the USN fleet, and rolled into what was a relatively minor air vehicle change. This may well hold up delivery of a new mission system software drop while awaiting the software regression testing to be complete on the overall configuration build change for the TOC.
		Requirements Management	Ensure the transition plan is approved well in advance of the first aircraft delivery (12 months or more).
		Resourcing	Consider co-location or moving of Acquisition Project staff to the Sustainment organisation as part of standing up the Sustainment Management Unit (SMU). This will ensure a better flow of knowledge transfer and ownership of the history of a particular requirement. Co-location of the Project Office with the SMU in January 2019 has already yielded benefits in terms of information transfer and cooperation in capability delivery.
4	**AIR 9000 Phase 8 Future Naval Aviation Combat System**	Contract Management	Whilst an FMS program affords a number of advantages, the transfer of a significant amount of project management and engineering functions to the US Government implementing agency (NAVAIR PMA-299) and the weak bargaining position of the Commonwealth, increases the project's exposure to risk (technical, schedule and cost). The resultant level of risk and complexity is often understated and poorly understood. The level of Commonwealth contract and financial management involvement and oversight of industry is very low in comparison to that mandated for Direct Commercial Sale contracts, yet both procurement methods confront similar issues. Adequate Commonwealth participation in key project management and technical oversight activities in the US, as provided for in the Government Second Pass submission, is critical to provide the required level of contract management.
		Off-The-Shelf Equipment	By procuring MOTS equipment, adhering to the project's clearly defined scope as detailed by government at Second Pass, and effectively using the Program Management Steering Group to prevent potential scope creep, the project has been able to meet or exceed its financial and schedule obligations as detailed within the project's Materiel Acquisition Agreement.
		Resourcing	The recruitment process lead times for candidates not already within the ADF or APS can create significant extended vacancies within the Project workforce, and this is exacerbated by the relatively short notice that Defence personnel are obliged to provide for internal transfers.
		Schedule Management	Linking ship integration to the project has assured continued support and oversight of that aspect from subject matter experts. As this projects final milestones are linked to future ship integration and the delivery of capability on that vessel it has been invaluable to have a Project Team member embedded within the parent Ship Project. By actively participating in the development of the ship's Aviation configuration our project has been able to minimise disruptions to the ship build cycle and Project schedule slippages.
5	**JP 2048 Phase 4A/4B Amphibious Ships (LHD)**	Contract Management	Independent Assurance Reviews and Project Stakeholder Group meetings enable adjustment of project strategies and stakeholder input to balance schedule decisions against impacts to cost, schedule, performance, quality and stakeholder expectations. For example, cost, performance and supportability may be impacted by early acceptance of the supplies to meet schedule demands.
		Contract Management	Prior to committing to the acquisition contract, use best endeavours to obtain high fidelity sustainment data and assess it against suitability (fitness for purpose). Senior engineering and logistic reviews are required prior to the delivery of the sustainment products to minimise sustainment risks.
		First of Type Equipment	When introducing new major capabilities into service, both operational tasks and maintenance tasks should be modelled and analysed in detail, before the training obligations under the acquisition contract are agreed.
6	**JNT 2072 Phase 2A Battlespace Communications System**	Resourcing	JNT 2072 is required to provide extensive support and advice to other projects procuring or integrating communications equipment via JNT 2072 contracts. New project approvals need to include adequate resources for integration and support of communications systems within their own platforms. The sustainment organisation will need to be prepared to provide program, engineering and logistics support beyond the completion of JNT 2072 phases.
7	**SEA 1439 Phase 3**	Contract Management	Consider the impact associated with long term sole source cost plus contracts.

#	Project	Categories of Systemic Lessons	Project Lesson
	Collins Class Submarine Reliability and Sustainability	Governance	Responsibilities need to be clearly defined between project stakeholders in regards to the development and endorsement of trial documents and that this is identified well in advance of scheduled trials.
		Requirements Management	Ensure that all capability requirements are clearly defined, approved and appropriately funded before detailed acquisition planning commences.
		Schedule Management	Ensure that maintenance period schedule dependencies are identified and appropriate risk management strategies developed.
		Schedule Management	Understand the competing priorities within a program (ISS Performance Term Contract) and how they will impact on individual project performance.
		Contract Management	
8	**SEA 1448 Phase 2B ANZAC Anti-Ship Missile Defence**	First of Type Equipment	Ensure that technically complex developmental projects that have high levels of risk as part of the new system or integration of the new system into existing systems, demands that a prototype (lead platform) be agreed up-front and used for proving the capability before agreeing to additional platforms.
		Governance	Adequate communication between, and engagement of, critical stakeholders to ensure that a common understanding of Project status is maintained.
		Governance	Project budgets must be managed to avoid adverse impacts of program level changes to budget management practices.
		Governance	Seaworthiness policy changed the role of Regulators in the reviewing of the TI-338. Need to engage early with Policy and Procedure Owner to establish what 'assurance' is required and authorised.
9	**SEA 4000 Phase 3 Air Warfare Destroyer**	Contract Management	The Hobart Class Combat System operation and performance has been proven on HMAS *Hobart* and *NUSHIP Brisbane* through acceptance tests at sea. The first-time success of this complex integration is due to thorough design and architecture early in project, along with the extensive use of on-shore test facilities closely replicating the ship environment. Close cooperation and regular dialogue with United States Navy colleagues were also important to ensure integration with the AEGIS weapon system.
		Contract Management	The interpretation of the requirements of fitness for purpose of drawings is different between contracting parties. A review of all product types prior to contract and interrogation of the delivery schedule to confirm sufficient time for reviews and incorporation of comments is necessary.
		Governance	The AWD Reform has been successful and the key reason is due to implementing an experienced Management Team into the Shipbuilding Program who have previously built and designed the ship. First of Class ship build programs should have this support when building the first ship, allowing the local Australian workforce to be better prepared and trained to build the remaining ships.
		Resourcing	The shipbuilding capacity of shipyards involved in a project like AWD needs to be assessed in detail in terms of precise capacity to undertake production engineering as well as the workload constraints of facilities, production supervision and overall workforce numbers taking into consideration the total contracts conducted at the shipyard in parallel.
		First of Type Equipment	
		Resourcing	The need to develop appropriate and sector wide tools and infrastructure, namely the Maritime Information Environment IT network, to facilitate Government policies in continuous naval shipbuilding.
		Schedule Management	The schedule that plans the transition from design to production needs detailed evaluation by the designer(s) and the production shipyard(s) to ensure the balance between commencing production and completing very detailed design is appropriately balanced and agreed.

Appendix E - Data Tables

Table E1 - Project Budget Status, as at June 2022

#	Project Number	Government Approved Budget at Second Pass ($m)	Subsequent Government Approvals ($m)	Price Indexation ($m)	Foreign Exchange Variation ($m)	Real Cost / Scope Variation ($m)	Transfers ($m)	Budgetary Adjustments ($m)	Budget Cost Savings ($m)	Current Budget ($m)
1	AIR 2025 Phase 6	1,117.9	6.1	-	-	8.2	14.0	-	-	1,146.2
2	AIR 5431 Phase 3	731.4	-	-	3.8	247.5	34.9	(6.8)	-	1,010.8
3	AIR 555 Phase 1	2,166.3	-	-	67.8	-	2.4	(2.9)	-	2,233.6
4	AIR 6000 Phase 2A/2B	2,751.6	10,515.4	351.0	2,188.9	(2.8)	(8.4)	-	-	15,795.7
5	AIR 7000 Phase 1B	2,067.9	-	0.2	(86.3)	-	17.7	-	-	1,999.5
6	AIR 8000 Phase 2	1,156.5	-	-	268.4	-	(3.3)	-	-	1,421.6
7	AIR 9000 Phase 2/4/6	957.2	2,565.6	679.8	(136.6)	31.5	(239.3)	(87.4)	-	3,770.7
8	JNT 2072 Phase 2B	915.7	-	-	27.1	-	-	-	-	942.9
9	LAND 121 Phase 3B	2,549.2	735.6	-	144.8	-	(30.0)	-	-	3,399.6
10	LAND 121 Phase 4	1,944.9	-	0.4	17.7	-	-	-	-	1,962.9
11	LAND 19 Phase 7B	1,274.3	-	-	(58.0)	-	-	-	-	1,216.3
12	LAND 200 Tranche 2	930.0	-	-	36.2	-	-	-	-	966.2
13	LAND 400 Phase 2	5,762.7	-	-	(156.4)	-	-	-	-	5,606.3
14	SEA 1000 Phase 1B	989.4	5,021.7	-	(99.3)	-	(1,095.7)	0.1	-	4,816.2
15	SEA 1180 Phase 1	3,639.1	-	-	9.5	-	-	-	-	3,648.6
16	SEA 1439 Phase 5B2	597.8	-	0.4	8.1	1.4	-	2.5	-	610.1
17	SEA 1442 Phase 4	385.6	-	-	49.1	-	-	-	-	434.8
18	SEA 1448 Phase 4B	427.8	-	-	1.5	-	-	-	-	429.2
19	SEA 1654 Phase 3	1,004.7	-	-	(3.2)	-	(76.5)		-	1,078.0
20	SEA 3036 Phase 1	503.3	-	-	(2.2)	-	1.2	-	-	502.3
21	SEA 5000 Phase 1	6,184.0	-	-	(131.6)	-	3.3	-	-	6,055.7
	Total	**38,057.2**	**18,844.3**	**1,031.8**	**2,149.2**	**285.8**	**(1,226.6)**	**(94.6)**	**-**	**59,047.1**

Table E2 - Project In-Year Financial Status, as at June 2022

#	Project Number	Portfolio Budget Statements ($m)	Portfolio Additional Estimate Statements ($m)	Final Plan (FP) ($m)	Actual Spend ($m)	Variation PBS minus Actual Spend ($m)	Variation FP minus Actual Spend ($m)	Variation FP *minus* Actual Spend (%)
1	AIR 2025 Phase 6	50.2	63.3	63.3	61.9	-11.7	1.4	2.2
2	AIR 5431 Phase 3	148.1	116.5	115.9	99.1	49.0	16.8	14.5
3	AIR 555 Phase 1	294.5	310.0	306.5	220.5	74.0	86.0	28.1
4	AIR 6000 Phase 2A/2B	1,949.3	1,774.3	1,754.4	1,701.7	247.6	52.7	3.0
5	AIR 7000 Phase 1B	319.8	272.6	269.7	251.5	68.3	18.2	6.7
6	AIR 8000 Phase	61.3	75.5	74.9	58.9	2.4	16.0	21.4
7	AIR 9000 Phase 2/4/6	166.6	61.0	113.2	36.0	130.6	77.2	68.2
8	JNT 2072 Phase 2B	103.7	92.3	92.0	70.0	33.7	22.0	23.9
9	LAND 121 Phase 3B	65.1	74.4	74.2	63.0	2.1	11.2	15.1
10	LAND 121 Phase 4	548.1	341.1	338.5	341.1	207.0	-2.6	-0.8
11	LAND 19 Phase 7B	162.4	143.1	144.2	183.8	-21.4	-39.6	-27.5
12	LAND 200 Tranche 2	155.8	57.3	57.0	19.8	136.0	37.2	65.3
13	LAND 400 Phase 2	665.1	374.1	370.0	370.1	295.0	-0.1	0.0
14	SEA 1000 Phase 1B	981.8	980.6	961.7	1,143.9	-162.1	-182.2	-18.9
15	SEA 1180 Phase 1	366.5	367.8	366.8	231.4	135.1	135.4	36.9
16	SEA 1439 Phase 5B2	37.5	33.9	33.8	23.6	13.9	10.2	30.2
17	SEA 1442 Phase 4	40.0	31.7	31.8	24.4	15.6	7.4	23.3
18	SEA 1448 Phase 4B	33.0	22.0	22.0	19.2	13.8	2.8	12.7
19	SEA 1654 Phase 3	49.4	88.2	86.4	64.5	-15.1	21.9	25.3
20	SEA 3036 Phase 1	81.5	68.4	68.2	61.5	20.0	6.7	9.8
21	SEA 5000 Phase 1	655.2	532.1	531.1	608.5	46.7	-77.4	-14.6
	Total	**6,934.9**	**5,880.2**	**5,875.6**	**5,654.4**	**1,280.5**	**221.2**	**3.8**

Table E3 - Project Schedule Status, as at June 2022

#	Project Number	2nd Pass	Originally Estimated IOC	Forecast IOC *As at 30 Jun 21*	Forecast IOC *As at 30 Jun 22*	IOC Variation (months)	Variation (%)	Originally estimated FOC	Forecast FOC *As at 30 Jun 21*	Forecast FOC *As at 30 Jun 22*	FOC Variation (months)	Variation (%)
1	**AIR 2025 Phase 6**	Dec 17	Apr 24	TBA	NFP	NFP	NFP	Jan 29	TBA	NFP	NFP	NFP
2	**AIR 5431 Phase 3**	Dec 14	Jun 20	TBA[140]	Jun 25	60	90.89	Jun 23	TBA	Mar 28	57	56.00
3	**AIR 555 Phase 1**	Sep 17	NFP	NFP	NFP	NFP	NFP	NFP	NFP	NFP	NFP	NFP
4	**AIR 6000 Phase 2A/2B**	Apr 14	Dec 20	Dec 20	Dec 20	0	0.00	Dec 23	Dec 23	Dec 23	0	0.00
5	**AIR 7000 Phase 1B**	Nov 20	Jul 24	Jun 26	Jun 26	23	54.04	Dec 25	Jul 31	Jun 31	66	108.00
6	**AIR 8000 Phase 2**	Apr 12	Dec 16	Dec 16	Dec 16	0	0.00	Dec 17	Jun 22	Jun 22	54	80.00
7	**AIR 9000 Phase 2/4/6**	Apr 06	Apr 11	Dec 14	Feb 15	47	78.20	Jul 14	Jun 22	Mar 23	104	105.00
8	**JNT 2072 Phase 2B**	Apr 15	Sep 17	Mar 18	Mar 18	6	23.42	Sep 20	Sep 23	Sep 23	36	56.00
9	**LAND 121 Phase 3B**	Jul 13	Dec 19	Dec 19	Dec 19	0	0.00	Dec 23	Dec 23	TBA	TBA	TBA
10	**LAND 121 Phase 4**	Aug 15	Dec 19	May 21	May 21	17	33.86	Jun 23	Jun 23	Jun 23	0	0.00
11	**LAND 19 Phase 7B**	Feb 19	Jun 23	Jun 23	Delayed	NFP	NFP	Jun 26	Jun 26	Jun 26	0	0.00
12	**LAND 200 Tranche 2**	Sep 17	Sep 21	Apr 23	Mar 24	30	62.83	Jun 22	Oct 23	Aug 25	38	67.00
13	**LAND 400 Phase 2**	Mar 18	Jun 22	Jun 22	Jun 22	0	0.00	Jun 27	Jun 27	Jun 27	0	0.00
14	**SEA 1000 Phase 1B**	Feb 19	Project Cancelled									
15	**SEA 1180 Phase 1**	Nov 17	Dec 22	Dec 22	Delayed	NFP	NFP	Jun 30	Jun 30	Delayed	NFP	NFP
16	**SEA 1439 Phase 5B2**	Mar 17	Jun 21	Dec 22	Dec 22	18	35.29	Dec 24	Jun 27	Jun 27	30	32.00
17	**SEA 1442 Phase 4**	Jul 13	Dec 18	Dec 21	Oct 22	46	70.74	Dec 23	Apr 25	Apr 25	16	13.00
18	**SEA 1448 Phase 4B**	Jun 17	Jun 20	Jul 21	Jul 21	13	36.04	Jun 24	Jun 24	May 24	-1	-1.00
19	**SEA 1654 Phase 3**	Apr 16	Mar 21	Aug 21	Oct 21	7	11.92	Dec 22	Dec 22	Dec 22	0	0.00
20	**SEA 3036 Phase 1**	Apr 16	Oct 18	Nov 18	Nov 18	1	6.57	Sep 23	TBA	TBA	TBA	TBA
21	**SEA 5000 Phase 1**	Jun 18	IOC and FOC Dates have not yet been agreed									

[140] Per the 2020-21 MPR, the forecast dates were under analysis by Defence and reported as 'TBA'.

Appendix F – Glossary

Acquisition Categories	See Appendix B.
Additional Estimates	Where amounts appropriated at Budget time are required to change, Parliament may make adjustments to portfolios through the Additional Estimates Acts.
Australianised Military-off-the-Shelf (MOTS)	An adapted military-off-the-shelf product where modifications are made to meet particular ADF operational requirements.
Capability	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. Capability is generated by the Fundamental Inputs to Capability.
Capability Manager	A Capability Manager (CM) has the responsibility to raise, train and sustain capabilities. In relation to the delivery of new capability or enhancements to extant capabilities through the Defence Integrated Investment Plan, CMs are responsible for delivering the agreed capability to Government, through the coordination of the fundamental inputs to capability. Principal CMs are Chief of Navy, Chief of Army, Chief of Air Force, and Chief of Joint Capabilities.
Capital Equipment	Substantial end items of equipment such as ships, aircraft, armoured vehicles, weapons, communications systems, electronics systems or other armaments that are additional to, or replacements for, items in the Defence inventory.
Caveat	In relation to the declaration of Initial or Final Operational Capability or other capability milestone, is a plan, stipulation, condition or limitation to mitigate the capability impact of a Deficiency.
Contract Change Proposal (CCP)	This is a formal written proposal by the Commonwealth or the contractor, prepared in accordance with the terms and conditions of the contract, to change the contract after the effective date. After agreement by the parties, the contract is amended in accordance with the processes established in the contract.
Corporate Governance	The process by which agencies are directed and controlled, and encompasses; authority, accountability, stewardship, leadership, direction and control.
Deficiency	In relation to the declaration of Initial or Final Operational Capability or other capability milestone, is a shortfall between the Government agreed requirements and that which is provided at the milestone.
Developmental	A product that is not available off-the-shelf and has to be developed specifically to meet the ADF's particular operational requirements.
Final Materiel Release	A milestone that marks the completion and release of those Acquisition Project supplies required to support the achievement of Final Operational Capability.
Final Operational Capability (FOC)	The capability state relating to the in-service realisation of the final subset of a capability system that can be employed operationally. Declaration of final operating capability is made by the Capability Manager, supported by the results of operational test and evaluation and declaration by the Delivery Group(s) that the fundamental inputs to capability have been delivered.

Fixed Price Contract	A fixed price contract is unalterable in all respects for the duration of the contract, except where the parties agree to a contract amendment which alters that contract price.
Foreign Military Sales	The US Department of Defense's Foreign Military Sales program facilitates sales of US arms, Defense services, and military training to foreign governments.
Forward Estimates	The level of proposed expenditure for future years (based on relevant demographic, economic and other future forecasting assumptions). The Government requires forward estimates for the following three financial years to be published in each annual Federal Budget paper.
Function and Performance Specification	A specification that expresses an operational requirement in function and performance terms. This document forms part of the capability documentation.
Initial Materiel Release (IMR)	A milestone that marks the completion and initial release of Acquisition Project supplies required to support the achievement of Initial Operational Capability.
Initial Operational Capability (IOC)	The capability state relating to the in-service realisation of the first subset of a capability system that can be employed operationally. Declaration of Initial Operational Capability is made by the Capability Manager, supported by the results of operational test and evaluation and declaration by the Delivery Group(s) that the fundamental inputs to capability have been delivered.
Materiel Acquisition Agreement (MAA)	An agreement between Defence and CASG which states in concise terms what services and products will be delivered, for how much and when.
Memorandum of Understanding (MOU)	A Memorandum of Understanding is a document setting out an agreement, usually between two government agencies.
Minor Capital Acquisition Project	A Defence project in which the proposed equipment falls within the definition of capital equipment but does not meet the criteria in the definition of a major project.
Off-the-Shelf	A system or equipment that is available for purchase, which is already established in-service with another military or government body or commercial enterprise and requires only minor, if any, modification to deliver interoperability with existing ADF assets.
Operational Concept Document	The primary reference for determining fitness-for-purpose of the desired capability to be developed. This document forms part of the Capability Definition Document.
Operational Test and Evaluation (OT&E)	Test and evaluation conducted under realistic operational conditions with representative users of the system, in the expected operational context, for the purpose of determining its operational effectiveness and suitability to carry out the role and fulfil the requirement that it was intended to satisfy.
Out Turned Costs / Out-Turning	Defence establishes cost estimates using out-turned costs (i.e. inclusive of agreed or estimated contract price indexation) to ensure that estimates include allowances for future inflationary cost increases and foreign exchange.
Platforms	Refers to air, land, or surface or sub-surface assets that are discrete and taskable elements within the ADF.
Portfolio Budget Statement (PBS)	A document presented by the Minister to the Parliament to inform Senators and Members of the basis for Defence budget appropriations in support of the provisions in Appropriation Bills 1 and 2. The statements summarise the Defence budget and provides detail of outcome

	performance forecasts and resources in order to justify agency expenditure.
Prime System Integrator (PSI)	The entity that has prime responsibility for delivering the mission and support systems.
Public Governance, Performance and Accountability Act (PGPA) 2013	The *Public Governance, Performance and Accountability Act 2013* came into effect on 1 July 2014 and superseded the *Financial Management and Accountability Act 1997*. It is a Commonwealth Act about the governance, performance and accountability of, and the use and management of public resources by, the Commonwealth, Commonwealth entities and Commonwealth companies, and for related purposes.
Risk	The effect of uncertainty on objectives. An effect is a deviation from the expected. It can be positive, negative or both, and can address, create or result in opportunities and threats. Risk is usually expressed in terms of risk sources, potential events, their consequences and their likelihood.
Test Concept Document	The basis for the development of the Test and Evaluation Master Plan for a project, and is the highest level document that considers test and evaluation requirements within the capability systems' life-cycle. This document forms part of the Capability Definition Document.
Variable Price Contracts	Variable price contracts provide for the contractor to be paid a fixed fee for performance of the contract, subject to certain variations detailed in the contract. Variable price contracts may allow for variations in exchange rates, labour and/or material costs.