

Project Data Summary Sheet¹⁵⁵

Project Number	AIR5431 Phase 3
Project Name	Civil Military Air Traffic Management System (CMATS)
First Year Reported in the MPR	2016-17
Capability Type	Replacement
Capability Manager	Chief of Air Force
Government 1st Pass Approval	Nov 11
Government 2nd Pass Approval	Dec 14
Budget at 2nd Pass Approval	\$731.4m
Total Approved Budget (Current)	\$1,010.8m
2021-22 Budget	\$115.9m
Complexity	ACAT I



Section 1 – Project Summary

1.1 Project Description

AIR 5431 Phase 3 is the Defence component of the Airservices Australia (Airservices)-led joint agency program. AIR 5431 Phase 3 will replace the current Australian Defence Air Traffic System at 12 fixed base Defence locations. The Defence component of the joint project, (eight Civil Military Air Traffic Management System (CMATS) sites and four Airservices Defence OneSKY Tower (ADOT) sites, the ab-initio training simulator at the RAAF School of Air Traffic Control and the Operational Maintenance Trainer At RAAF Amberley) will be delivered through the On Supply Agreement (OSA) contract between AIR 5431 Phase 3 and the Airservices OneSKY project.

To meet this OSA obligation, in addition to providing direct services using internal work packages, Airservices holds the contracts with Thales Australia (Thales), as prime for the CMATS deliveries, and with SAAB Incorporated (Inc) (SAAB) and Frequentis Australia (Frequentis) for subsystems of the ADOT solution.

1.2 Current Status

Cost Performance

In-year

In-year expenditure to 30 June 2022 is \$99.1m against a budget of \$115.9m. The variation is due to a combination of:

- Contract Change Proposal amendments to the Air-Ground-Air contract milestone delivery dates
- Contractor delay on Site Preparation and Support Costs
- Less than anticipated requirement for contracted workforce due to delays in the prime contract
- Less than anticipated operating expenses due to lower Project Management and Air Force Operating costs

Project Financial Assurance Statement

As at 30 June 2022, project AIR5431 Phase 3 has reviewed the project's approved scope and budget for those elements required to be delivered by Defence. Having reviewed the current financial contractual obligations of Defence for this project, current known risks and estimated future expenditure, Defence considers, as at the reporting date, there is sufficient budget remaining, including contingency, for the project to complete against the agreed scope, noting currently unrealised risks carry some cost risk.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

Thales continues to experience challenges in progressing parallel streams of work under the CMATS contract. Although the COVID restrictions are largely now lifted Thales continues to be challenged to draw down the outstanding work that is preventing the design from reaching maturity in the scheduled timeframe. This is resulting in incremental testing of some areas of the design, which are sufficiently mature, but is creating complexity in managing a system of system test program with multiple baselines. This has already made some testing less effective than would normally be the case.

The deed that gave Thales conditional approval to exit the Release Zero (Rz) Critical Design Review (CDR) in December 2020 was expected to be completed in June 2021. However, the outstanding deliverable, which is the final design release Baseline for Release Zero, will not be delivered until October 2022, and is a precursor to the commencement of formal system testing for Release Zero.

155 Notice to reader

Forecast dates and Sections: 1.2 (Material Capability/Scope Delivery Performance), 1.3 (Major Risks and Issues), 4.1 (Measures of Material Capability/Scope Delivery Performance), and 5 (Major Risks and Issues) are excluded from the scope of the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the *Independent Assurance Report by the Auditor-General in Part 3* of this report.

In April 2021, Defence agreed with Thales to limited early installation activities at a number of sites where the systems to be installed were assessed to be mature. Thales retains the risk of rework at these sites, should any design changes be identified in any remaining design work, some of which was realised. Thales had to pause installation at East Sale in November 2021 and at Amberley in January 2022 due to a combination of supply chain and design maturity issues. Thales has indicated it will not recommence site activities at those locations until mid Q3 2022.

In July 2021, as a result of reviews by the CASG Independent Assurance Review and the Schedule Compliance Risk Assessment Methodology (SCRAM) team, Thales commenced another schedule review resulting in it declaring further schedule delay to IOC and FOC. Thales incorporated these changes into the October 2021 Contract Master Schedule (CMS), however this has been overtaken by further delays. The CASG Division Head directed an external deep dive review of the subject schedule, which was conducted by an external contractor in early 2022. While there were some areas of ambiguity due to a Work Breakdown Structure (WBS) dictionary not being available as part of the review and the schedule identified as being overly complex that made analysis of critical path very difficult, the report identified similar issues to the SCRAM and considerable concern with the resourcing levels of the CMATS program. The other factor a direction by Thales management to work to a P10 (montecarlo 10% chance of success) working schedule that has driven sub optimal outcomes and created greater instability in the schedule. Airservices intends to contract another external agency to conduct a further Integrated Baseline Review (IBR) in Q3 2022 that should drive another schedule replan by Thales.

In relation to the delivery of the ADOT towers, in June 2022, SAAB identified a number of delays that put the first site, Edinburgh now on, or near, critical path of IOC. In addition, the combined contracts with SAAB and Frequentis still do not fully cover the full suite of system requirements of ADOT. Airservices is currently in negotiation with the ADOT subcontractors for variations to their contracts to take on complete design, integration work and system of system testing, to achieve the full capability solution.

Airservices has commenced work on a number of items associated with its obligations under the collaboration options agreed between Airservices and Defence that resulted from the relocation of Darwin and Townsville approach capability to Brisbane Airservices Area Control Centre and the necessary gateways and networks to allow Oakey Approach to be relocated to Amberley. To date, Airservices negotiations with Air Force headquarters on options is paused due to a wider network systems availability study being conducted by Airservices.

Material Capability/Scope Delivery Performance

This program has not delivered any materiel capability to date through the On Supply Agreement.

Related Materiel Capability is also being managed by the Project outside the On Supply Agreement including:

- Air Ground Air (AGA) transition solution delivered by BAE Systems Australia (hardware installed at two sites but cannot be commissioned/accepted until the CMATS systems are installed)
- An ADATS life-of-type extension contract with Raytheon to cater for the schedule delays being experienced, and
- Defence site preparation and support, to support the design requirements of the contractor.

Note

Forecast dates and capability assessments are excluded from the scope of the Auditor-General's Independent Assurance Report.

1.3 Project Context

Background

In 2011, based on both Defence and Airservices intending to replace their legacy air traffic control systems, Defence agreed to an opportunity for Defence and Airservices, to harmonise the procurement of Australia's civil and military air traffic management systems so as to deliver improvements in safety, efficiency, flexibility, economy and business continuity.

Airservices and Defence conducted a joint Request For Tender in June 2013. This allowed AIR5431 Phase 3 to achieve Second Pass approval in December 2014 on the basis of tender agnostic capability, schedule and cost data provisioned by Airservices in the form of a Not-to-Exceed (NTE) price for the Defence contribution for the common and Defence unique elements delivered under the On Supply Agreement.

On 18 August 2017, due to concerns over an inability to finalise negotiations within acceptable cost and schedule risks, AIR5431 Phase 3 was listed as a Project of Concern. In response, Airservices offered a number of collaboration options to Defence, including the relocation of some Defence approach capabilities to their Brisbane centre and replacing four of the Thales supplied towers with a variant of their regional tower program.

In February 2018, AIR5431 Phase 3 was granted a real cost increase (RCI) of \$243.0m (including contingency) to cover Defence contribution for the agreed collaboration options, a transition radio solution (AGAT), Australian Defence Air Traffic System (ADATS) life-of-type extension and facilities preparation costs related to CMATS installation. This RCI allowed Defence to agree to a fixed price contribution for the Defence deliveries under the On Supply Agreement, which allowed Airservices to sign contracts with Thales, and other contractors subsequently, for the joint supplies.

AIR5431 Phase 3 was removed from the Project of Concern list on 08 May 18 as a result of the contract being signed but remained as a Project of Interest with six monthly updates to Government.

Based on the continuing delays and credibility issues with the Thales schedule and the lack of ability to reduce the amount of outstanding technical issues affecting completion of the system design, Chief of Air Force recommended to Government that AIR5431 Phase 3 be relisted as a Project of Concern.

Uniqueness

AIR5431 Phase 3 represents the first time that a Defence project is contributing to a major national infrastructure project. The December 2009 National Aviation White Paper identified the need to implement a harmonised national civil and military air traffic management system. The activities identified in the White Paper for the implementation of a comprehensive, collaborative approach to nation-wide air traffic management included the procurement of a single solution air traffic management (ATM) platform between civil and military agencies.

At the time of decision to enter into a joint project arrangement there was no history of a similar governance structure in operation that aligned with the scope of this project. As a consequence, Airservices and Defence have established and continued to refine the joint delivery structure without the benefit of adapting from proven existing models.

Major Risks and Issues

Airservices and Defence manage risk separately in accordance with their respective risk management frameworks. The CMATS joint program risk register is maintained by Airservices on behalf of the CMATS program and considers risks that may collectively impact both Defence and Airservices. Joint project risks and issues (those that affect the risks and obligations Airservices and Defence jointly share under the On-Supply Agreement) are managed using the Airservices risk matrix. AIR5431 Phase 3 operates a separate risk register for Defence specific/unique risks and issues. All major risks that have an impact on AIR5431 Phase 3 delivery of the Materiel Acquisition Agreement (MAA) have been recorded, regardless of where they are managed.

During the reporting period, the risks identified for AIR5431 Phase 3 and the CMATS joint program have shifted as a result of progress through the system design milestones. The Project's major risks fall into the categories of contractor performance, schedule, resourcing, Customer Furnished (Materials, Supplies, Services, Data) and program delivery, as follows:

- Contractor performance covering system design processes, maturity-based engineering approaches, Human Factors program, adherence to baseline management, quality assurance of technical activities and supporting documentation, compliance with Customer constraints, timely achievement of milestones, delivery of capability, and enabling resource composition required to deliver concurrent priorities.
- Scheduling of activities in accordance with an achievable Integrated Master Schedule, informed by credible contract master schedules to enable the effective management of resources, customer obligations, critical path priorities and constraints.
- Resourcing sufficiency and suitability to effectively deliver on the Customer obligations across the OneSKY program, including adequate support to key contractor-led activities and milestones, such as major design reviews, testing activities and site integration and verification, which may also involve support to onerous and ongoing travel obligations.
- Customer Furnished Materials, Supplies and Services including provision, delivery, non-compliance, delays to, deficiencies in, or unavailability of Defence third-party systems, CIOG and SEG infrastructure and networks.
- Program delivery risks associated with the complexity inherent in the delivery of the collaboration options, delivery of supplies and services in accordance with the On Supply Agreement, design and delivery of ADOT, and management of threats associated with changes or events in the air traffic domain.

The project has seen an overall increase in risk since the previous report, due the increasing cost and schedule impact of addressing critical system design aspects later than planned in the design cycle. Some of the Defence obligations have reduced, in part due to their relationship to milestones in the Thales schedule, which has experienced high levels of delay.

The key issues impacting Defence and requiring active management include:

- The On Supply Agreement (OSA) is not fit for purpose to manage the on-supply and delivery of sustainment services from Airservices Australia.
- The increased cost of the project Major Service Provider resources supporting testing and the introduction into service of new systems as a result of potential delays to the Thales delivery schedule.
- Premature exit of the Critical Design Review with major deficiencies in the Release Zero Design still to be addressed prior to exiting system verification.

Other Current Related Projects/Phases

AIR5431 Phase 1 – Deployable Defence Air Traffic Management Capability will introduce Deployable Air Traffic Management (ATM) command and control systems into the ADF inventory. This phase has no impact on the ability of AIR5431 Phase 3 to deliver its outcomes.

AIR5431 Phase 2 – Fixed Defence Air Traffic Control Surveillance System will replace the existing fixed base defence Air Traffic Control (ATC) surveillance radars. AIR5431 Phase 3 is highly reliant on AIR5431 Phase 2 to deliver ATC surveillance data at some sites.

Note

Major risks and issues are excluded from the scope of the Auditor-General's Independent Assurance Report.

Section 2 – Financial Performance**2.1 Project Budget (out-turned) and Expenditure History**

Date	Description	\$m	Notes
	Project Budget		
Dec 14	Original Approved (Government Second Pass Approval)	731.4	1
Dec 17	Real Variation – Budgetary Adjustment	(6.8)	2
Feb 18	Real Variation – Real Cost Increase	247.5	3
Nov 21	Real Variation Transfer	1.7	4
Dec 21	Real Variation Transfer	15.5	4
Feb 22	Real Variation Transfer	17.6	4
		1,006.9	
Jun 22	Exchange Variation	3.8	
Jun 22	Total Budget	1,010.8	5
	Project Expenditure		
Prior to Jul 21	Contract Expenditure – Airservices Australia	(283.2)	
	Contract Expenditure – BAE	(35.6)	
	Contract Expenditure – Jacobs Australia – Integrated Work Package	(28.1)	
	Contract Expenditure – Jacobs		

	Australia – Integrated Support Contract	(27.0)	
	Other Contract Payments / Internal Expenses	(45.9)	
			(419.9)
FY to Jun 22	Contract Expenditure – Aircservices Australia	(73.3)	
	Contract Expenditure – Jacobs Australia – Integrated Work Package	(13.3)	
	Contract Expenditure – BAE	(7.2)	
	Other Contract Payments / Internal Expenses	(5.2)	
Jun 22	Total Expenditure		(99.1)
			(519.0)
Jun 22	Remaining Budget		491.8

6

Notes	
1	In addition to these direct project costs, Defence received approximately \$175m for Major Capital Facility costs and enabling ICT costs.
2	This variation is due to administrative decisions to temporarily harvest funds from the project. These funds were returned to the project as part of the RCI approved in February 2018. These funds were part of the original Second Pass approval budget.
3	An RCI of \$249.7m was approved by Government in February 2018 to cover additional costs related to the acquisition. This includes \$2.2m for Air Force to relocate the current Tindal Australian Military Airspace Control Communications System (AMACCS) air traffic control radio equipment site, leaving \$247.5m for CASG related costs (additional CMATS costs, AGAT radio solution, Australian Defence Air Traffic System (ADATS) life-of-type (LOTE) extension and facilities preparation costs related to CMATS installation). This figure includes the \$6.8m returned to the project to correct the Budgetary Adjustment which occurred in December 2017. Given this, the total approved RCI above Second Pass approval is \$242.9m including the \$2.2m for Air Force.
4	Air Force Group Project Budget transferred to CASG as part of 21/22 Additional Estimates for financial management purposes. Subsequent transfers include an adjustment for FY 20/21 underspend and a transfer from Security & Estate Group (SEG) to Air Force Group for funding related to existing tower demolition.
5	The total budget included planned expenditure for the Air Ground Air Transition Solution, ADATS life-of-type extension and Defence site preparation and support. These procurements have been incorporated into Section 2.3 as each agreement was reached.
6	Other Contract Payments in FY 21/22 include \$3.6m expenditure on site preparation, \$0.6m on legacy ATC automation system Autotrac II update procurement and the remaining \$1.0m being other contract payments/internal expenses

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
148.1	116.5	115.9	The variation from PAES estimate to final plan was due to exchange rate changes. The variation from final plan to EOFY achievement is primarily due to further delays to the CMATS milestones , and a reduced number of transition radio site rollouts due to COVID-19 travel restrictions
Variance \$m	(31.6)	(0.6)	Total Variance (\$m): (32.2)
Variance %	(21.3)	(0.5)	Total Variance (%): (21.7)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		(16.7)	Australian Industry	The variation is due to: 1) Contract Change Proposal amendments to the Air-Ground-Air contract milestone delivery dates (\$9.7m); 2) contractor delay on Site Preparation and Support Costs (\$2m); 3) less than anticipated requirement for contracted workforce due to delays in the prime contract (\$3.5m); and 4) Less than anticipated operating expenses due to lower Project Management and Air Force Operating costs (\$1.8m).
		-	Foreign Industry	
		-	Early Processes	
		(0.2)	Defence Processes	
		-	Foreign Government Negotiations/Payments	
		-	Cost Saving	
		-	Effort in Support of Operations	
		-	Additional Government Approvals	
115.9	99.1	(16.8)	Total Variance	
		(14.6)	% Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature \$m	30 Jun 22 \$m			
Jacobs Australia – Integrated Support Contract	Dec 14	107.7	27.0	Variable	Modified Standard Defence Contract	1,2
Airservices Australia	Feb 18	521.0	552.0	Fixed	On Supply Agreement	1,3
Jacobs Australia – Integrated Work Package	Dec 18	47.0	86.2	Variable	Integrated Work Package	1,4
BAE – Air-Ground-Air Transition System	Nov 19	67.4	70.6	Fixed	Support Contract Survey and Quote	1
Notes						
1	Contract value as at 30 June 2022 is based on actual expenditure to 30 June 2022 and remaining commitment at current budgeted exchange rates, and includes adjustments for indexation (where applicable).					
2	This contract is closed following the transition to a Branch wide Integrated Work Package (IWP) contract.					
3	CMATS will be procured via the Contracts (Acquisition) and (Support) between Airservices and Thales. Airservices manages both Contracts with Thales on behalf of Defence through the OSA. Due to exchange rate variance, the addition of Defence approved scope and the inclusion of Contract (Support), the price of the OSA will increase over time.					
4	The project workforce structure is based on the CASG First Principles Review with 80% of the project staff being delivered under the IWP contract. Contract value is the estimated Project share of the Branch IWP contract and is based on the estimate of project expenditure for work packages to the end of December 2024.					
Contractor		Contracted Quantities as at		Scope		Notes
		Signature	30 Jun 22			
Jacobs Australia	N/A	N/A	N/A	Service based integrated support.		
Airservices Australia	N/A	N/A	N/A	Through the OSA Airservices will deliver: CMATS combined control tower and approach centres at Amberley (including Oakey approach), East Sale, Williamtown, Tindal and Nowra; consolidated Darwin and Townsville approach services at Airservices Brisbane approach centre; CMATS control tower systems at Darwin, Townsville and Pearce; Tower systems sourced by Airservices at Richmond, Oakey, Edinburgh and Gin Gin; a simulator system at SATC and an Operational Maintenance Trainer at Amberley		1
Jacobs Australia	N/A	N/A	N/A	Serviced based integrated work package.		
BAE Systems	N/A	N/A	N/A	Procurement, design, integration and installation of an Air Ground Air Transition system across the twelve Defence Sites. This includes the procurement and integration of radio communications equipment that will supplement the existing AMACCS (currently sustained by BAE) to enable transition of CMATS.		
Major equipment accepted and quantities to 30 Jun 22						
Nil						
Notes						
1	This was a result of revised schedule Control tower systems for Oakey, Gingin, Richmond and Edinburgh (also previously referred to as the Four Alternate Tower Solution (FATS) now referred to as the Airservices Defence OneSKY Tower System (ADOT) will be delivered within the agreed fixed-price cap of \$521.0m. The obligation for Airservices to provide ADOT was established through the OSA signed 22 February 2018. The ADOT Statement of Work and Functional Performance Specification are the subject of negotiations between Defence and Airservices					

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System/ Platform Variant	Original Planned	Current Contracted	Achieved/Forecast	Variance (Months)	Notes
System Requirements	CMATS System Requirements Analysis	Aug 17	N/A	Jan 18	5	1
Preliminary Design Rz	CMATS	Oct 19	N/A	Dec 19	2	2, 4
Critical Design Rz	CMATS	Apr 20	Sep 20	Dec 20	8	2,5
Design Release Baseline Review Rz (Block 1)	CMATS	Apr 21	Jun 21	Jun 21	2	7,5
Support System Critical Design Review Rz	CMATS	Apr 20	Jun 21	Nov 21	19	
Preliminary Design Review R1 final	CMATS	Jan 22	Mar 22	TBA	2	3,8
Critical Design Review R1	CMATS	Sep 22	Jan 23	TBA	4	3,8
Preliminary Design Review R2	CMATS	Jun 23	Nov 23	TBA	5	3,8
Critical Design Review R2	CMATS	Feb 24	Jul 24	TBA	5	3,8
System requirements	Alternate Towers Via Airservices	Not Yet Agreed	N/A	N/A	N/A	6

Notes	
1	Airservices entered into contact with Thales for the acquisition of the CMATS in February 2018; System Requirements Analysis was achieved later than expected due to an underestimation of the effort required to develop the Functional Baseline.
2	Rz is the initial Defence system build for the first five Defences sites and represents the minimum software functionality for safe air traffic services at Defence sites. R1 is a software release that represents the minimum functionality required for Airservices to operate Brisbane and Melbourne Air Traffic Centres. R2 is a software release that represents the full CMATS functionality.
3	Thales is currently conducting a significant schedule replan of the CMATS deliverables. This will also affect the timing of when the ADOT sites can be delivered. The project expects this replan to be commenced by in Q3 2022 on completion of the IBR and the project will then update this table. The variance column has been retained to track the last reported variances
4	Although the design review was exited in December 2019, a number of technical issues were not resolved but were due to be completed by August 2020. This was not achieved and the issues rolled into CDR activities.
5	CMATS CDR was exited with a number of significant deficiencies. These are being managed through a new process called a design release baseline review (DRBR). DRBR was completed in June 2021 but the specifications at DRBR still require updating to meet the entry criteria for the formal Rz System Verification activity. Thales now expects these deliverables to be provided October 2022.
6	Airservices signed contracts with SAAB and Frequentis in December 2020. While these contractors have provided some schedules, they focus mainly on the early design activities, as the rollout of these sites must be managed in concert with the Thales rollout, which has yet to be settled sufficiently.
7	This milestone is not part of the original contract milestones and is specific to the Deed negotiated with Thales to complete the significant number of outstanding actions arising from CDR Rz. However, the DRBR in June 2021 was for an interim Specification and did not meet the entry criteria for entry into TRR Rz.
8	Thales have provided schedule analysis for dates associated with IMR, IOC, FMR and FOC, based on a 90% probability of achieving those dates. These Intermediate milestones have not yet been through that process and will need to be updated when that information is available.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System/Platform Variant	Original Planned	Current Contracted	Achieved/Forecast	Variance (Months)	Notes
Rz System verification	CMATS	N/A	Mar 22	TBA	TBA	4
System Acceptance	School of Air Traffic Control - CMATS	Jan 22	Feb 23	TBA	13	3
	RAAF Base East Sale - CMATS	May 22	May 23	TBA	12	3
	RAAF Base Amberley - CMATS	Jun 22	Jun 23	TBA	12	3
	RAAF Base Edinburgh - ADOT	Jun 22	TBA	TBA	TBA	1,3
	RAAF Base Pearce - CMATS	Oct 22	Nov 23	TBA	13	3
	RAAF Base Gingin - ADOT	Oct 22	TBA	TBA	TBA	1
	RAAF Base Tindal - CMATS	Nov 22	Nov 23	TBA	12	3
	Army Aviation Centre Oakey - ADOT	Nov 22	TBA	TBA	TBA	1,3
	RAAF Base Townsville - CMATS	Nov 23	Jan 25	TBA	14	3
	Naval Air Station Nowra - CMATS	Mar 24	Mar 25	TBA	12	3
	RAAF Base Williamtown - CMATS	Apr 24	Feb 25	TBA	10	3
	RAAF Base Darwin - CMATS	Apr 24	Jan 25	TBA	9	3
	RAAF Base Richmond - ADOT	May 24	TBA	TBA	TBA	1
Rz System Acceptance	CMATS	Aug 22	Jul 23	TBA	11	2
R1 System Acceptance	CMATS	Jul 24	May 25	TBA	10	3
R2 System Acceptance	CMATS	Feb 25	Nov 25	TBA	9	3
Final Acceptance	CMATS	Aug 25	Feb 26	TBA	6	3

Notes	
1	The planned date was based on the original contract before these sites were de-scoped from the Thales contract. Forecast dates are expected to be updated once the ADOT schedules have been agreed
2	Rz System Acceptance includes East Sale Tower and Approach (including the School of Air Traffic Control (SATC)), Amberley Tower and Approach including consolidated Oakey Approach and Edinburgh ADOT Tower. The selected sites constitute the AIR5431 Phase 3 IOC, as the combination of these sites demonstrates all possible system variants for Defence's portion of the CMATS system.
3	An Integrated Baseline Review is scheduled to commence in Q3 2022 which should prompt a schedule replan by Thales of the CMATS deliverables. The variance column has been retained to track the last reported variances
4	Due to the RZ design being incomplete, and the level of detail in the Thales schedule, it is difficult to provide a firm forecast. However, SV RZ is now not expected to be achieved until sometime Q2 2023

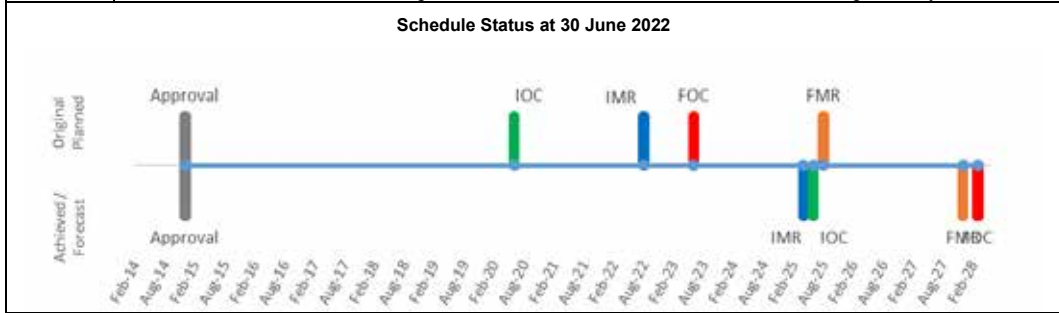
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Aug 22	Q1 2025	31	1,2,
Initial Operational Capability (IOC)	Jun 20	Q2 2025	60	2,3,
Final Materiel Release (FMR)	Aug 25	Q4 2027	28	1,2,
Final Operational Capability (FOC)	Jun 23	Q1 2028	57	2.

Project Data Summary Sheets

Auditor-General Report No.12 2022-23
2021-22 Major Projects Report

Notes	
1	The IMR and FMR milestones reflect the advice provided to Government in December 2019 and are included in MAAv3. The timing between IMR to IOC and FMR to FOC are constant. The apparent differences in variance between IMR/IOC and FMR/FOC is the result of using a different basis for the original date. The original date for IOC/FOC is the tender documentation whereas the original date used for IMR/FMR is the February 2018 Thales contract date for those milestones. The IMR/FMR dates are only for the Thales contract.
2	The variances in the identified Milestones are the result of a combination of a number of factors including: a protracted negotiation period; schedule delays resulting from the inclusion of significant scope post contract through CCPS4, 5 and 6; and the ongoing poor schedule performance due to design and schedule maturity issues. The currently reported forecast dates for IOC and FOC were generated by Thales using a P90 Montecarlo simulation in Oct 21. With Thales expected to participate in an Integrated Baseline Review Q3 2022, increased likelihood of further delay to the IOC and FOC dates being declared by end of 2022.
3	IOC also includes RAAF Base Edinburgh ADOT. There is no firm date for RAAF Base Edinburgh delivery.



Note	
Forecast dates in Section 3 are excluded from the scope of the Auditor-General's Independent Assurance Report.	

Section 4 – Materiel Capability/Scope Delivery Performance

4.1 Measures of Materiel Capability/Scope Delivery Performance

Traffic Light Diagram: Percentage Breakdown of Materiel Capability/Scope Delivery Performance	
	Green: The project expects to meet the capability requirements as expressed in the Joint Project Directive, Materiel Acquisition Agreement and relevant Technical Regulatory Authority. While a number of changes in the way Defence scope is to be delivered through the collaborations options initiated by Aircservices, these will not impact on the safe delivery of Defence air traffic services.
	Amber: N/A
	Red: N/A

Note	
This Traffic Light Diagram represents Defence's expected capability delivery. Capability assessments and forecast dates are excluded from the scope of the Auditor-General's Independent Assurance Report.	



4.2 Constitution of Materiel Release and Operational Capability Milestones

Item	Explanation	Achievement
Initial Materiel Release (IMR)	Amberley, East Sale (including SATC) and Edinburgh transitioned from ADATS. Forecast achievement date Q1 2025.	Not yet achieved
Initial Operational Capability (IOC)	Amberley, East Sale, SATC and Edinburgh have been accepted into Operational service. Forecast achievement date Q2 2025.	Not yet achieved
Final Materiel Release (FMR)	Delivery of all materiel system elements configured to the final system build for both ADOT and CMATS mission systems. Forecast achievement date Q4 2027.	Not yet achieved
Final Operational Capability (FOC)	All Defence Sites have been accepted into operational service. Forecast achievement date Q1 2028.	Not yet achieved

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Poor provision of, or delays to, Customer Furnished Materials, Supplies and Services including non-compliance of, deficiencies in, or unavailability of CIOG and SEG infrastructure and networks, will result in the customer impacting the contracted schedule.	Delays declared by Thales alleviate potential schedule impacts of the customer furnished items contributing to this risk, including aspects related to the commissioning of AIR5431 Phase 2 radars. Customer liability for Defence network delivery, is being managed through a 12 month design constraint applied to Thales due to their late delivery of network design requirements.
Delays to the Air Ground Air transition solution, which includes any modifications to existing gantries, may result in the AGA capability not available to enable CMATS and ADOT transition within the agreed contract schedule.	This risk has been downgraded from High to Medium as a result of meaningful Site Installation progress. East Sale has achieved Design Acceptance with a number of sites following in quick succession. Availability of an AGA transition capability is no longer threat to CMATS transition.
Transition of remote radios may be affected by an inability of the AGA Transition Project to modify existing remote radio interfaces with CMATS.	The project has worked with the System Program Office (SPO) to establish a contract to transition the remote radios to an IP based solution, which has resulted in an overall risk reduction to medium.
Dependency complexity inherent in the delivery of the collaboration options may lead to divergent goals and a lack of required oversight and control, exposure of cost, scope and schedule thresholds, misalignment of delegations, or a breach of OSA obligations by either party, resulting in limitations of rights and protections and failure to satisfy customer capability expectations.	Ensure that no extant rights and protections are watered down through subsequent variations to the OSA through clearly articulated variations, and that the Defence team understand how the OSA applies to their role and the work they do.
Airservices Defence OneSKY Tower (ADOT) system at Richmond, Edinburgh, Gingen and Oakey, may be affected by a lack of comprehensively documented scope, fragmented planning and a lack of sufficient resourcing, leading to a delayed ADOT delivery.	Defence is working closely with Airservices to ensure full coverage of Defence requirements are met in accordance with the ADOT Functional Performance Requirements Specification and On Supply Agreement obligations.
Implementation of CMATS within the Defence ATM environment may be impacted by the functional availability of other Defence third-party delivered systems, limiting the ability of the ATM solution to achieve certification or regulatory and licencing requirements.	Air Force are engaged through the Stakeholder Working Group (SWG) to analyse each function end-to-end to establish those systems that don't meet the availability requirements and identify possible mitigation options for shortfalls.
Thales' Mission System design process does not recognise Defence Facilities Constraints articulated in the Joint Acquisition Statement of Work (JASOW), this may lead to schedule delay and cost transfer from Thales to the customer.	Defence are closely monitoring the CMATS design process to raise areas of concern early, as well as ensure the Systems Engineering Management Plan includes customer constraints.
The Joint Software Support Facility may not be available or operationally effective in time for demonstrating Rz system of systems readiness for Rz transition, this may cause delays to commissioning at Rz sites.	This risk is being addressed via a provisional acceptance process through each functional baseline validation and regression testing. Identification of alternate acceptance strategies for Defence sites may be required.
A lack of Defence and Airservices project resources may impact oversight of system design work as it relates to PDR unresolved technical issues and the Critical Design Review (CDR) milestone, and impact on system design.	This risk is now being managed within the "insufficient Defence and Airservices project resources" risk and will not appear in this current form in next year's PDSS.
Insufficient Defence and Airservices project resources, with adequate specialist training and experience across program, commercial, engineering and operations, may result in quality and schedule impacts to key activities and milestones, such as major design reviews, testing activities and site integration and verification.	Timely sourcing of additional resources through the Major Service Provider (Jacobs), relevant training and improved resource allocation to work packages are being used to enhance flexibility within the CMATS program and ensure resources are available to address strategic priorities against maturity goals.

Project Data Summary Sheets

Auditor-General Report No.12 2022–23
2021–22 Major Projects Report

CMATS system of systems maturity due to outstanding technical activities and documentation (such as Acceptance Test Procedures) not yet resolved, may be inadequate to achieve Allocated Baseline (ABL) at Mandated System Review milestones (CDR and Test Readiness Review (TRR)), resulting in delays to verification at R2 sites, with the potential for flow on effects to R1 and R2.	The customer continues to focus on oversight and assurance of the system maturity profiles, areas of outstanding technical activities not yet resolved and reinforce Thales' role as the Prime System Integrator.
The maturity-based engineering approach adopted for CMATS requirements analysis may not align with the software design model, increases the complexity of baseline management and design assurance activities prescribed by the relevant industry standard.	Software design assurance objectives are managed between the Customer and Thales and involve conformance checks between key documents, with a current focus on plans and procedures associated with the test and evaluation program.
Thales' resource profile lacks flexibility and the necessary composition of skills to concurrently deliver the requirements for the Mandated System Review milestones, cater for ECPs and CCPs and any emergent scope should it arise. This risk is compounded by staff turnover, leading to productivity inefficiencies and potential schedule delay.	Ongoing monitoring of Thales' progress to address resourcing composition is conducted through the Program Review Board. Independently, Thales continue recruitment and retention activities to address the high staff turnover and shortages.
Site acceptance and the quality of site integration and verification activities, may be impacted by a requirement to support onerous, long-term and ongoing travel obligations.	Recruitment of suitably skilled resources within proximity of each site is a key strategy available to the Major Service Provider to meet the requirements of each work-package. Defence continue to enforce Thales compliance with the Joint Acquisition Statement of Work (JASOW) constraint that limits the number of parallel site activities.
If consistency between different system specification documents and between Defence, Airservices and Thales is not maintained, the system solutions could be incompatible and not fit for purpose.	This risk is now being managed within the "Thales' prioritisation of schedule over quality" risk and will not appear in this current form in next year's PDSS.
Thales' prioritisation of schedule over quality results in additional work for the Customer to ensure documentation and processes related to design, testing and installation are fit for purpose, leading to an increase to the cost of Defence's Major Service Provider arrangement.	Continue to enforce Thales' obligation to undertake their own quality control and design analysis, as well as limiting the number of incremental reviews being conducted.
Sustained COVID-19 international and domestic restrictions are impacting Thales productivity and their ability to bring specialist resources into country with a potential consequence of schedule delays.	This risk has been partially mitigated by a relaxation of government travel protocols, improved and normalised remote oversight of contractors, and establishment of state-based V&V teams. Risk is now rated Medium.
Emergent Risks (risk not previously identified but has emerged during 2021–22)	
Description	Remedial Action
Lack of a credible Integrated Master Schedule for OneSKY, impacted by poor quality Contract Master Schedules for CMATS and ADOT, may lead to misalignment and convergence of CMATS and ADOT activities, divergence between Defence and Airservices priorities, impacts to the timely and accurate provision of customer furnished services, supplies, equipment and facilities, and potential flow-on effects for installation including inadequate resourcing of concurrent transition and OT&E activities.	Continue to leverage existing program governance and controls to articulate the impacts of continuing to proceed with a non-credible schedule.
Thales' Human Factors strategy and engineering processes may not support OneSKY outcomes, including improving fitness for purpose based on user-centred design and optimised effectiveness of user performance.	Active management of this risk involves participation of Joint Program Team Subject Matter Experts and operational end user representatives in Human Factors Working Groups, along with clear escalation paths. Two additional Joint Program Team FTE are driving Thales progress, with the combination of treatments proving effective.
The OneSKY Program may be impacted by third party initiated changes or events in the air traffic domain, including ATM, aerodromes, airspace workforces, customers.	Close coordination with sponsor, System Program Office and user groups to collaborate on future capability intent and scanning of industry to identify trends and changes in the air traffic domain.

5.2 Major Project Issues

Description	Remedial Action
Premature exit of the Critical Design Review with major deficiencies in the Release Zero Design still to be addressed.	Airservices as the lead agency, have accepted the risks and liabilities associated with the decision to exit Critical Design Review with known major deficiencies in the Release Zero design that will still require remediation.
The increased cost of the project Major Service Provider resources supporting testing and the introduction into service of new systems as a result of potential delays to the Thales delivery schedule.	The Project will effectively on-board resources at timings which align, as far as possible, with revised Thales schedules to minimise any inefficiencies and additional costs to Defence. This will require the project to seek some level of contingency within the next 2 financial years.

AIR5431 Phase 3 is unable to introduce CMATS into service without impacting current operations due to insufficient dependent Air Ground Air transition system assets.	As a result of meaningful Site Installation progress, and East Sale achieving Design Acceptance with a number of sites following in quick succession, availability of an AGA transition capability is no longer threat to CMATS transition and has been retired.
Delays to the delivery of the Fixed Base Radar system under AIR5431 Phase 2 has impacted development and transition into service of CMATS due to the need to have sensor data from those radars available for interface testing prior to CMATS installation at sites.	This issue has been retired on the basis of suitable recordings provided to Thales of radar data, to enable CMATS design, test and evaluation and verification and validation to progress.
The OSA is not fit for purpose to manage the on-supply and delivery of sustainment services from Airservices Australia.	Engage with Airservices to commence an update to the OSA to incorporate an appropriate cost-sharing regime and governance arrangement for on-supply of sustainment services.

Note
Major risks and issues in Section 5 are excluded from the scope of the Auditor-General's Independent Assurance Report.

Section 6 – Lessons Learned

6.1 Key Lessons Learned

Description	Categories of Systemic Lessons
Set up the Governance structure earlier in the process – the decision regarding lead agency and harmonisation was determined at a strategic level without detailed analysis of the nuances between the two organisations. Although there is now a robust governance structure in place, there are still areas of disunity that are now difficult to change.	Governance
Better communication with Stakeholders - although the establishment of joint project was at the direction of a harmonisation initiative of the Government, the joint project has been slow to re-engage with stakeholders, up to and including Government, to seek refined direction based on prevailing and emerging risks and issues.	Contract management/Governance
A lack of resources at the initiation stage of the project, and during the preparation of the Request For Tender, can create a significant technical and stakeholder management debt that will affect the ability to agree on requirements, forecast a realistic schedule and determine future workforce requirements.	Resourcing
Whilst waiting to initiate dependant projects (i.e. facilities) 'just in time' increases the risk of delays to the delivery of the prime mission system, starting dependant projects too early can result in them being delivered so far in advance of the prime mission system, that the outputs of the dependant project no longer satisfy the 'evolved' mission system intent.	Schedule Management
As a result of long-running schedule maturity issues, it is recommended that long-term planning beyond the nearest major milestone is essential to reducing program risk and sub-optimal short-term planning, and furthermore schedule logic applied to the Contract Master Schedule (CMS) must reflect the logic identified in the contract to ensure activities are sequenced according to precedence and priority.	Schedule Management
Aggressive timeframes to meet schedule milestones often results in compressed timeframes to engage stakeholders (operational, engineering/technical and strategic), leading to compromises to proper requirements management. Consequently, a schedule needs to be developed to include opportunities for specified periods of stakeholder consultation and alignment during the capability delivery life-cycle.	Schedule Management/Governance

Section 7 – Project Structure

7.1 Project Structure as at 30 June 2022

Unit	Name
Division	Rotary, Aerospace and Surveillance Systems
Branch	Air and Space Surveillance and Control