

## Project Data Summary Sheet<sup>154</sup>

Project Number	<b>AIR8000 Phase 2</b>
Project Name	<b>LIGHT TACTICAL FIXED WING</b>
First Year Reported in the MPR	2013-14
Capability Type	Replacement
Capability Manager	Chief of Air Force
Government 1st Pass Approval	Apr 12
Government 2nd Pass Approval	Apr 12
Budget at 2 <sup>nd</sup> Pass Approval	\$1,156.5m
Total Approved Budget (Current)	<b>\$1,426.1m</b>
2020-21 Budget	<b>\$40.7m</b>
Complexity	ACAT II



Light Tactical Fixed Wing

### Section 1 – Project Summary

#### 1.1 Project Description

This project was approved to replace the retired Caribou capability and provide an enhanced intra-theatre and regional airlift capability through acquisition of a fleet of ten new C-27J aircraft.

Project acquisition includes the ten aircraft, a training system, support system materiel elements, and three years of initial training and support services from the aircraft In-Service Date (ISD), through Initial Operational Capability (IOC) and Final Operating Capability (FOC).

**The aircraft was operated by 35 Squadron at its Interim Main Operating Base (MOB) at Royal Australian Air Force (RAAF) Base Richmond and is now operated from its Final MOB at RAAF Base Amberley.**

To date the project has delivered 10 aircraft, the initial training, **system** support services, an interim training system, and the support system materiel elements.

**Government agreed in 2016 to delay FOC to 2019 and accept mature training system and Structural Substantiation Project (SSP) deliverables beyond FOC.**

**During 2020 Defence completed a capability revalidation activity for the C-27J. The outcomes have resulted in changes to the capability definition which are incorporated into updated arrangements between responsible units. Operational use of the aircraft is pivoting from Battlefield Airlifter to Light Tactical Fixed Wing (LTFW) capability with minor changes to acquisition scope for the simulator. A Missile Approach Warning system study informed the LTFW decision.**

**Future deliveries include a less complex flight training device simulator, various training aids, contracted training services, and outcomes from the Structural Substantiation Program.**

#### 1.2 Current Status

##### Cost Performance

###### In-year

The end of financial year **variance of \$5.0m is due to** lower than forecast FMS spend, delays in longer lead time spares deliveries **and reduced contractor support requirements for the project. These cost variances were offset by early achievement of Mode/IFF milestones.**

###### Project Financial Assurance Statement

As at 30 June 2021, **project** AIR8000 Phase 2 has reviewed the **project's** approved scope and budget for those elements required to be delivered by **Defence**. Having reviewed the current financial and 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 for the project to complete against the agreed revised scope.**

###### Contingency Statement

The project has not applied contingency in the financial year.

#### 154 Notice to reader

Forecast dates and Sections: 1.2 (Materiel Capability Delivery Performance), 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability 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 Review Report by the Auditor-General* in **Part 3** of this report.

AIR8000 Phase 2 was originally approved as Battlefield Airlift – Caribou Replacement. Since Air Force advised of capability change in December 2019 the project has been managed and is reported as Light Tactical Fixed Wing. The remainder of this report will refer to AIR8000 Phase 2 Light Tactical Fixed Wing.

Part 3. Project Data Summary Sheets

<p><b>Schedule Performance</b></p> <p>Initial Materiel Release (IMR) and IOC were declared with caveats in December 2016. The IOC declaration encompassed the materiel caveats described by the project at IMR. FOC at end of 2017, as originally planned, was unachievable as a result of: Leonardo aircraft production delays associated with the transfer of the fuselage assembly line; the delayed start to US-based training in 2014; reduced training throughput due to aircraft availability; and <b>commensurate</b> delays associated with establishing facilities at the Main Operating Base at RAAF Base Amberley. Under a revised schedule agreed by Government <b>in 2016</b>, FOC was to be achieved by December 2019 (24 months behind original schedule), noting the capability would continue to mature beyond FOC, including delivery of the mature training system. Final Materiel Release (FMR) was not achieved in October 2019, and FOC was not declared in December 2019.</p> <p><b>The key activities in 2020-21 were approval by Government of a Defence submission proposing an operational capability pivot from Battlefield Airlift to Light Tactical Fixed Wing; and the resulting project re-scoping and rescheduling activities resulting in an updated Materiel Acquisition Agreement (MAA). Government's LTFW decision advised FOC was to be achieved in FY2021-22.</b></p> <p><b>Other activities in 2020-21 included the acceptance into service of a Fuselage Training device (FuT), contract award to Leonardo for a Virtual Maintenance Trainer, and commencement of the Leonardo flight loads test program as part of the Structural Substantiation Project. Contracting for the simulator continues following a revision of simulator scope following the capability pivot to LTFW.</b></p>
<p><b>Materiel Capability Delivery Performance</b></p> <p>The C-27J aircraft is a relatively mature and well tested <b>in production aircraft</b>. Notwithstanding, the project office <b>has been</b> working through a number of capability considerations identified post-establishment of the <b>acquisition arrangements</b>. These baseline issues are associated with the configuration and certification status of the USAF JCA C-27J program, which were not finalised by the USAF at the time of divestiture. All ten aircraft have been accepted, with the last aircraft accepted in December 2017.</p> <p><b>Following Defence's capability revalidation activities in 2020, Air Force and CASG have analysed the outcomes to reshape the materiel delivery program resulting in acquisition of a less complex flight simulator and a change in aircraft operational profile – an option that was forecast at project approval. The capability will continue to mature post a revised FMR in 2021-2022.</b></p>
<p><b>Note</b></p> <p>Forecast dates and capability assessments are excluded from the scope of the Auditor-General's Independent Assurance Report.</p>

1.3 Project Context

<p><b>Background</b></p> <p>A requirement to replace Defence's battlefield airlift capability was first identified in the 1980s. Defence ensured the battlefield airlift capability was maintained via a sustainment commitment to the Caribou until their retirement in 2009 and lease of additional B300 King Air aircraft until suitable replacement platforms and appropriate Defence Capability Plan funding could be allocated.</p> <p>On 10 May 2012 Government announced it had approved the purchase of ten C-27J battlefield airlift aircraft via FMS from the US Government to replace the Caribou aircraft, at a total program cost of up to A\$1.4 billion.</p> <p>Leonardo manufactured the C-27J Military Industrial Baseline Aircraft configuration which was then flown to the US for modification. <b>L-3 PID modified the aircraft to the US JCA configuration adding selected military equipment to improve the platform's Battlefield Airlift capabilities.</b></p> <p>The USAF's potential to divest the C-27J was a known consideration that was factored into the business case presented to and approved by Government at project combined First and Second Pass in April 2012. In early 2013 the USAF confirmed its intention to divest their C-27J fleet and accelerated its schedule for withdrawal. Subsequently, in mid-2013, the USAF advised that it would not complete Military Type Certification (MTC) and that L-3 PID was, contrary to earlier advice, required by the Air National Guard to vacate the facilities occupied by the C-27J training school located at Robins Air Force Base, Georgia USA. This resulted in a late notice requirement for relocation of the L-3 training school to L-3 facilities in Arlington and Waco, Texas, which resulted in a three-month delay to ISD (achieved June 2015).</p> <p>Military Type Certification (MTC) was leveraging the Federal Aviation Authority civilian certification and USAF work completed at the time of its decision to cease its MTC. The USAF decision not to complete MTC has materially increased the cost, effort and schedule risk associated with the project achieving MTC. The Commonwealth has secured significant Intellectual Property licensing rights to technical data from Leonardo and L-3 PID to aid in MTC and through-life support of the C-27J. A MTC <b>covering basic flight operations</b> was achieved in June 2020 <b>albeit with some technical limitations which are the subject of further work.</b></p> <p>Training Systems were impacted by the USAF's inability to acquire a suitable system for the Commonwealth. Consequently, the decision was made to manage and undertake training in Australia and acquire the mature training system via commercial arrangements. The accepted Interim Training System currently offers training to aircrew and maintenance personnel at a dedicated training facility at RAAF Base Amberley and in Italy.</p> <p>Defence continues to build a close commercial and working relationship with Leonardo S.p.A., the original equipment manufacturer of the C-27J Spartan. In early 2019, Defence established a four-person C-27J Resident Project Team, located in Leonardo's facilities in Turin, Italy. This has contributed to the Project retiring numerous Risks and Issues associated with contracting, delivery of spares and support, Government approved aircraft upgrades, and OEM technical support. <b>Following the LTFW decision the Resident Project Team was reduced to three persons.</b></p> <p>The project was unable to achieve FOC as planned during 2019. Defence has formally advised Government of the inability to achieve FOC and <b>provided capability revalidation outcomes to the project for implementation. The capability revalidation outcomes have revised the capability, deliverables, schedule, and substantially reduced the risk profile for the project. The capability is pivoting operationally from Battlefield Airlifter to Light Tactical Fixed Wing capability with redefined aircraft training devices suitable for the LTFW role as it is currently configured.</b></p>
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<p><b>Uniqueness</b></p> <p>The C-27J is a <b>mature</b> aircraft acquisition <b>requiring</b> a limited number of changes to meet Australian requirements, such as: paint scheme; upgraded Radar Warning Receiver; updates to address obsolescence; and upgrade to the Mode 4 IFF system.</p> <p>The uniqueness of the project can be measured by;</p> <ol style="list-style-type: none"> <li>The degree of Australian-specific contracting effort that was conducted by the USAF C-27J FMS Program Office to establish initial FMS training and support services as a result of USAF C-27J divestiture (generally, FMS leverages off a contemporary US military procurement). USAF contracting of US-based initial training from L-3 PID utilising the ADF Airworthiness Management System is also atypical. Historically, the USAF airworthiness management system has been utilised for such training arrangements; however, due to USAF C-27J divestiture, this option was no longer possible. Both the USAF and L-3 were unfamiliar with Australian airworthiness management system requirements.</li> <li>The degree of IFF system upgrade activities from Mode 4 to Mode 5 on a delivered in-service sustainment product that are required to meet project outcomes given the limited availability of an off-the-shelf design for the C-27J platform globally.</li> </ol>
<p><b>Major Risks and Issues</b></p> <p>The <b>2012</b> Government endorsed acquisition strategy accepted a number of risks stemming from, or exacerbated by, the likelihood of USAF C-27J divestiture. Notwithstanding these risks, the benefits of acquiring the USAF JCA-configured C-27J via FMS were assessed to outweigh these risks, and their likelihood of occurring was taken into account when developing initial project strategies and plans. However, the accelerated pace of USAF C-27J divestiture resulted in greater impact to the program than originally anticipated.</p> <p>The current major project residual risks <b>after the Air Force 2020 capability revalidation outcome activities</b> are as follows:</p> <p><b>Training System.</b> As a result of the capability revalidation outcomes, delivery of the Fuselage Trainer, the project established and transitioned training management to AMG and 35 Squadron.</p> <p><b>COVID-19.</b> To mitigate impact, the project transitioned to video conferencing meetings to connect project personnel working remotely and also implemented video conferencing with Italian and American partners to continue progressing project outcomes and collaborations.</p> <p><b>Final Training Systems.</b> The revised training devices and services requirements from the capability revalidation activity may be impacted by delays in contracting, contractor delivery performance, and Defence support organisation performance, impacting training schedule achievement.</p> <p><b>Capability Definition.</b> There is a risk that continued uncertainty during 2020 and early 2021 in the required AIR8000 Phase 2 capability will impact project cost, schedule, and scope. Air Force advised submission regarding role change to LTFW supported by Government. Subsequently detailed LTFW capability and deliverables agreed between stakeholders.</p>
<p><b>Other Current Related Projects/Phases</b></p> <p>N/A</p>
<p><b>Note</b></p> <p>Major risks and issues are excluded from the scope of the Auditor-General's Independent Assurance Report.</p>

**Section 2 – Financial Performance**

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	\$m	Notes
	<b>Project Budget</b>		
Apr 12	Original Approved ( <b>Second Pass Approval</b> )	1,156.5	
Nov 19	Real Variation - Transfer	(1.0)	4
Jun 21	Exchange Variation	270.5	
Jun 21	<b>Total Budget</b>	<b>1,426.1</b>	
	<b>Project Expenditure</b>		
Prior to Jul 20	Contract Expenditure - US Government	(659.5)	1
	Contract Expenditure - Leonardo - Flight Loads Test Program	(7.6)	
	Contract Expenditure - Leonardo - Avionics Risk Reduction Activity	(6.5)	
	Contract Expenditure - Leonardo Intellectual Property and Technical Data	(72.1)	1
	Contract Expenditure - Leonardo - Structural Substantiation Program (Fuselage)	(18.6)	1
	Contract Expenditure - Leonardo - Mode 5 IFF Upgrade	(18.5)	1
	Contract Expenditure - Leonardo - Management of Services	(5.3)	
	Other Contract Payments/Internal Expenses	(119.3)	2
		<b>(907.3)</b>	
FY to Jun 21	Contract Expenditure - Leonardo - Flight Loads Test Program	(6.0)	1
	Contract Expenditure - Leonardo - Avionics Risk Reduction Activity	(9.4)	1
	Contract Expenditure - Leonardo - Mode 5 IFF Upgrade	(3.2)	1
	Contract Expenditure - Leonardo - Management of Services	(6.6)	1
	Other Contract Payments/Internal Expenses	(10.4)	3
		<b>(35.6)</b>	
Jun 21	<b>Total Expenditure</b>	<b>(942.9)</b>	

Jun 21	<b>Remaining Budget</b>	<b>483.1</b>
<b>Notes</b>		
1	The scope of these contracts is explained further in Section 2.3 – Details of Project Major Contracts.	
2	Other expenditure comprises: <b>Support and Test Equipment, spares and global freight costs (\$61.3m), contractor support costs for Structural Substantiation Program, loadmaster seat development, aircraft modification and certification purposes (\$31.3m), training devices related procurement and support costs (\$7.6m), and other project management support and administrative costs (\$19.1m) contribute to the other expenditure.</b>	
3	Other expenditure comprises: <b>Support and Test Equipment, spares and global freight costs (\$2.0m), contractor support costs for Structural Substantiation Program, loadmaster seat development, aircraft modification and certification purposes (\$4.1m), training devices related procurement and support costs (\$0.8m), and other project management support and administrative costs (\$3.5m) contribute to the other expenditure.</b>	
4	Transfer to Defence Science and Technology Group for the provision of ongoing contractor technical support for the Structural Substantiation Program.	

**2.2A In-year Budget Estimate Variance**

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
<b>66.9</b>	<b>41.7</b>	<b>40.7</b>	PBS - PAES: The variation is primarily due to a combination of adjustments to <b>training device</b> , structural substantiation program, <b>contractor support requirements, aircraft updates, certification</b> and other minor changes. PAES - Final Plan: Variance is due to <b>foreign exchange updates to Project Approval</b>
Variance \$m	<b>(25.2)</b>	<b>(1.0)</b>	Total Variance (\$m): <b>(26.2)</b>
Variance %	<b>(37.7)</b>	<b>(2.4)</b>	Total Variance (%): <b>(39.2)</b>

**2.2B In-year Budget/Expenditure Variance**

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
			Australian Industry	<b>The end of financial year variance of \$5.0m is due to lower than forecast FMS spend, delays in longer lead time spares deliveries and reduced contractor support requirements for the project. These cost variances were offset by early achievement of Mode/IFF milestones.</b>
		<b>(1.1)</b>	Foreign Industry	
			Early Processes	
		<b>(3.5)</b>	Defence Processes	
		<b>(0.4)</b>	Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
<b>40.7</b>	<b>35.6</b>	<b>(5.0)</b>	Total Variance	
		<b>(12.4)</b>	% Variance	

**2.3 Details of Project Major Contracts**

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature \$m	30 Jun 21 \$m			
US Government	May 12	882.4	<b>664.1</b>	Reimbursement	FMS	1,2,3
Leonardo IP Technical Data	May 12	62.0	72.1	Firm Price	Standard Defence Contract	1
Leonardo Mode 5 IFF	Sept 17	18.7	<b>24.2</b>	Firm Price	Standard Defence Contract	1,4
Leonardo Aircraft Fuselage Test Article	Dec 17	16.9	18.7	Firm Price	Standard Defence Contract	1,5
Leonardo Management of Services	Feb 19	27.4	<b>27.6</b>	Firm price	Standard Defence Contract	1
Leonardo Flight Loads Test Program	Mar 19	19.8	<b>19.9</b>	Firm price	Standard Defence Contract	1
Leonardo Avionics Risk Reduction	Sept 19	16.2	<b>16.5</b>	Firm Price	Standard Defence Contract	1

<b>Notes</b>						
1	Contract value as at 30 June 2021 is based on actual expenditure to 30 June 2021 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).					
2	Amendment 4 to FMS case AT-D-SGU was approved in May 2017 reducing the case value to USD655.5m. The Amendment reflects removal of training device acquisition funding and an overall release of management reserve funding no longer require under the case. The amendment also reflects the CoA's intention to close the case early.					

3	Amendment 5 to FMS case AT-D-SGU was approved on 2 July 2018 reducing the FMS Case value to USD617.7m. The Amendment releases further management reserve funding no longer required under the case. The amendment also reflects the CoA's intention to close the case early. Amendment 6, was approved in May 19 and has further reduced the FMS case to a value of USD601.9m. There were no amendments to the case in the <b>2020-21</b> financial year. The change to the contract value from the prior year is due to foreign exchange movements.			
4	Mode 5 IFF upgrade contract. Contract Change 1 was approved in October 2018 updating the milestone payment schedule introducing new maintenance related activities and DASR certification requirements.			
5	Aircraft Fuselage Test Article Contract Change 1 was approved November 2019 adding additional production requirements to address shortfalls found in initial reviews of the test article deliverables.			
Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 21		
US Government	10	10	10 C-27J Aircraft and associated training, training equipment, spares, ground support equipment and initial support	
Leonardo-IP Technical Data	N/A	N/A	C-27J Intellectual Property and Technical Data	
Leonardo Mode 5 IFF	10	10	Mode 5 IFF modification for 10 C-27J aircraft	
Leonardo Aircraft Fuselage Test Article	1	1	Aircraft Fuselage procurement in support of C-27J Structural Substantiation Program	
Leonardo Management of Services	N/A	N/A	Provision of Project Management Services in support of the Enduring Leonardo Contract (ELC)	
Leonardo Flight Loads Test Program	1	1	Provision of a Flight Loads Test Program in support of the C-27J Structural Substantiation Program	
Leonardo Avionics Risk Reduction	N/A	N/A	Provision of risk reduction activities in support of development of the C-27J Avionics Block Upgrade.	
<b>Major equipment accepted and quantities to 30 Jun 21</b>				
Ten aircraft <b>including supplies, support and test equipment, a fuselage trainer, SSP fuselage and wing test articles have been</b> accepted plus a substantial amount of the IP rights and Technical data <b>including Avionics Risk Reduction information. The six month long SSP Flight Loads Test Program to obtain data for static testing commenced in Italy for completion in FY 2021-22.</b>				
<b>Notes</b>				
1	N/A			

### 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	Flight Training Device	TBA	TBA	TBA	TBA	1,2
Preliminary Design	Flight Training Device	TBA	TBA	TBA	TBA	1,2
Critical Design	Flight Training Device	TBA	TBA	TBA	TBA	1,2
<b>Notes</b>						
1	Contracts for the acquisition of the Operational Flight Trainer device have yet to be established. Training devices are not included in the revised FOC definition approved by Government in May 2016. Work <b>was completed</b> for the installation and maintenance for the Fuselage Trainer through L-3 Oceania. No design process is required for the Fuselage Trainer as a decommissioned US-based system was acquired for refurbishment by the Commonwealth from L-3 Oceania.					
2	<b>The project completed tender evaluation of the Leonardo Full Flight Mission Simulator and advised Leonardo the proposal was unsuitable.</b> As of <b>30 June 2021</b> and as a result of the <b>capability revalidation outcomes</b> , collaborative development of detailed requirements for a <b>reduced scope</b> Flight Training Device acquisition has resulted in a <b>refined</b> Statement of Work submission to Leonardo S.p.A. Final contract negotiations are anticipated <b>by March 2022.</b>					

#### 3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System/Platform Variant	Original Planned	Current Contracted	Achieved /Forecast	Variance (Months)	Notes
System Integration	<b>Flight Training Device</b>	TBA	TBA	TBA	TBA	1,2
	Fuselage Trainer	May 20	N/A	<b>Dec 20</b>	<b>7</b>	1,6,7
Acceptance	C-27J Aircraft 1 (A34-001)	Jul 14	N/A	Nov 14	4	
	C-27J Aircraft 2 (A34-002)	Sep 14	N/A	Dec 14	3	
	C-27J Aircraft 3 (A34-003)	Nov 14	N/A	Aug 15	9	3
	C-27J Aircraft 4 (A34-004)	Feb 15	N/A	Mar 16	13	4
	C-27J Aircraft 5 (A34-005)	Aug 15	N/A	Aug 16	12	5
	C-27J Aircraft 6 (A34-006)	Oct 15	N/A	Nov 16	13	5

	C-27J Aircraft 7 (A34-007)	Dec 15	N/A	Mar 17	15	5
	C-27J Aircraft 8 (A34-008)	Feb 16	N/A	Aug 17	18	3,5
	C-27J Aircraft 9 (A34-009)	Apr 16	N/A	Oct 17	18	3,5
	C-27J Aircraft 10 (A34-010)	May 16	N/A	Dec 17	19	3,5
	Operational Flight Trainer	TBA	TBA	TBA	TBA	1,2
	Fuselage Trainer	May 20	N/A	Dec 20	7	1,6,7

## Notes

1	The acquisition contract for the Fuselage Trainer was established on 29 July 2019. <b>The Fuselage Trainer was a commercial off the shelf purchase, no design reviews were required.</b> Contracts for the acquisition of the remaining training devices are under development.
2	See Section 3.1 Note 2.
3	Delivery of Aircraft was delayed due to the requirement for repair of the life raft door following damage sustained during the acceptance test flight, and the requirement for delivery of minor waiver data to support aircraft acceptance (later rectified through a contract change proposal).
4	Delivery of Aircraft 4 was delayed due to availability of required spares from Leonardo to rectify a number of discrepancies and the prioritisation of aircraft components for use on other aircraft.
5	Leonardo's decision to close its Naples fuselage production facility and consolidate all C-27J production at its Turin facility resulted in a delay to delivery of Aircraft 5 through 10. However, Leonardo's production consolidation was beneficial to the overall production of aircraft. From Aircraft 5, there were considerable improvements in aircraft build quality and the project was able to recover some lost production schedule. Improvements continued as a result of Leonardo's consolidation decision and management of its supply chain.
6	Variance due to delays in shipment of the Fuselage Trainer from the United States (e.g. quarantine delays), and delayed completion of installation activities and documentation. Acceptance was planned to be completed by May 20 prior to COVID-19.
7	COVID-19 travel restrictions came into force in March 20 immediately prior to the commencement of formal acceptance testing which <b>was</b> paused subject to interstate travel restrictions. Once travel restrictions <b>were</b> lifted, there <b>was</b> 2 months of activity to achieve acceptance.

## 3.3 Progress Toward Materiel Release and Operational Capability Milestones

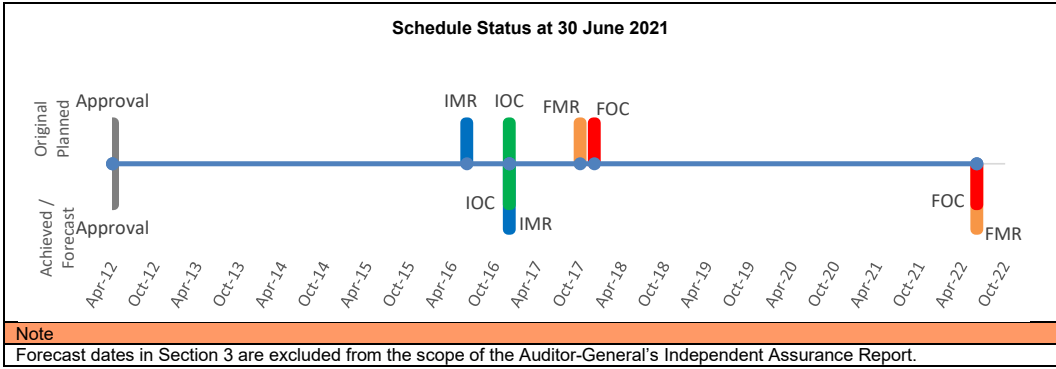
Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
In-Service Date (ISD)	Mar 15	Jun 15	3	1
Initial Materiel Release (IMR)	Jun 16	Dec 16	6	2
Initial Operational Capability (IOC)	Dec 16	Dec 16	0	3
Final Materiel Release (FMR)	Oct 17	Jun 22	57	4,5
Final Operational Capability (FOC)	Dec 17	Jun 22	54	4,5

## Notes

1	Variance due to delays in establishing FMS support and training arrangements in the US.
2	Variance due to delay in delivery of Aircraft and adequate support. IMR was declared with caveats relating to deficiencies in supply support and training courseware.
3	IOC was declared with caveats in December 2016 with four aircraft delivered to Australia. The IOC caveats encompassed the limitations described by the project at IMR, which have been resolved.
4	Variance due to delays in aircraft production and construction of facilities at RAAF Amberley. In 2016 <b>and in 2020</b> Government agreed to delay Final Operating Capability (FOC) <b>which is now set to be achieved in FY 2021-22. In 2020 Air Force advised CASG of the capability revalidation outcomes for the project which re-defined FMR and FOC. The project is progressing in accordance with the revised MAA.</b>
5	<b>Defence formally proposed revised C-27J capability options and FMR/FOC schedule to Government</b> after reviewing available options during 2020. <b>The revalidated FMR and FOC requirements are; 10 aircraft modified with an upgraded IFF system; all supplies; all support, test and role equipment; all publications; a fuselage trainer; a landing gear and a propeller training aid; aircrew training services; acceptance of Structural Substantiation Program items; updated Type Certificate; and ability to conduct revised capability roles and missions.</b> <b>Post FOC scheduled deliveries include; a flight training device; an engine training aid; a Virtual Maintenance Training system; Mode 5 IFF software update; Avionics Safety of Flight update; an updated Type Certificate; and final Structural Substantiation Program outcomes.</b> <b>Progress as of 30 June 2021 is; 10 aircraft delivered; all support, test and role equipment; all publications; accepted the fuselage trainer and the Structural Substantiation Program test articles. The project continues activities to complete all outstanding requirements.</b>

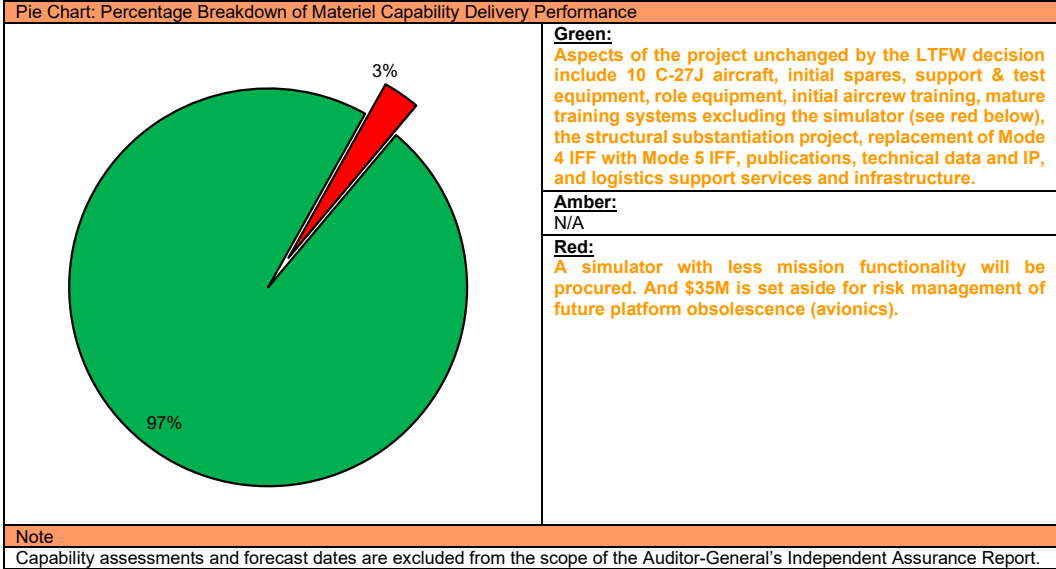
## Project Data Summary Sheets

Auditor-General Report No.13 2021-22  
2020-21 Major Projects Report



**Section 4 – Materiel Capability Delivery Performance**

4.1 Measures of Materiel Capability Delivery Performance



4.2 Constitution of Materiel Release and Operational Capability Milestones

Item	Explanation	Achievement
Initial Materiel Release (IMR)	Delivery of three aircraft and sufficient logistics support (including trained personnel) to support initial operations. IMR was declared with caveats in December 2016. Caveats were resolved Quarter 2 2017.	Achieved
Initial Operational Capability (IOC)	Initial operations from interim Main Operating Base (MOB) (RAAF Richmond). Three C-27J aircraft delivered to the Interim MOB with sufficient operational crews, maintenance teams, training, and support infrastructure. The squadron will conduct air logistics support and airborne operational roles.	Achieved
Final Materiel Release (FMR)	The project was unable to achieve FMR was forecast for October 2019. Defence will inform Government of a revised schedule and requirements after reviewing available options during 2020.	Not yet achieved

	The project is executing activities towards the revised FMR date of June 2022. Key FMR requirements include delivery of all 10 aircraft delivered to RAAF Amberley with the upgraded Mode 5 IFF fitted, all supplies identified in FMS/DCS, all S&TE and role equipment, publications and technical data/IP, the Fuselage Trainer and selected training aids and training service contracts, and acceptance of test article and flight loads plans to support SSP.	
Final Operational Capability (FOC)	<p>The project was unable to achieve FOC as forecast for December 2019. Defence has formally advised Government of the inability to achieve FOC and proposed a revised FOC schedule to Government after reviewing available options during 2020.</p> <p>The project is executing activities towards the revised FOC capabilities and schedule of June 2022.</p> <p>The ability to conduct effective and sustained Operations, Roles and Missions. 10 C-27J Aircraft operating from RAAF Amberley. All 10 aircraft fitted with Mode 5 IFF. Mature operational support, maintenance and training system. Infrastructure to support LTFW operations.</p>	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
<p><b>C-27J Capability Baseline.</b> The project has reviewed the C-27J capability baseline and identified a number of known incomplete capability requirements, some of which will be matured beyond FOC. Specific challenges included Avionics Upgrade and the Full Flight Mission Simulator which impacted project budget and schedule.</p>	<p>Following Air Force advice in relation to capability revalidation outcome, and approval of an updated MAA, the risk to the project regarding scope, schedule, and cost is very low. A simpler simulator will be procured on an accelerated timeframe, and a smaller avionics upgrade focused on reducing operational risk will be investigated. Clarity has also been provided in relation to the additional training aids and training services required as part of the final training system. Accordingly, this risk is downgraded to Medium.</p>
<p><b>Training.</b> Delays in establishment of contracts between the US Government and L-3 has impacted the training schedule and student throughput. The courseware standard delivered required active involvement by the Commonwealth to implement ongoing improvements and meet perceived gaps in US based training.</p>	<p>The project transitioned training from the USA to RAAF Richmond in July 2017, with the simulator element undertaken in Italy. Continuity of training leading up to cessation in the US was actively managed, planned and tested to ensure continuity without impact to capability.</p> <p>During 2016-17 the Government agreed that alternative approaches to FMS were required. The project continues to investigate opportunities to deliver a mature training system at RAAF Amberley. Work is in progress to procure the Operational Flight Trainer through the Enduring Leonardo Contract. An opportunity to procure a Fuselage Trainer was entered into with L-3 Oceania for delivery in 2019-20. These activities will form the basis of mature training system delivery post-FOC.</p> <p>The Estate and Infrastructure Group has completed construction of the Training Support Facility at RAAF Amberley, and the facility was accepted by the project in February 2018.</p> <p>As a result of the capability revalidation outcomes, delivery of the Fuselage Trainer, the project established and transitioned training management to AMG and 35 Squadron. The mitigations have been effective in managing this risk.</p>
<p><b>COVID-19.</b> Project Engineering, Training, SSP, contracting, and IFF Mode 5 activities will be affected by the COVID-19 pandemic (control orders, isolations, shut downs) leading to an impact on achievement of project milestones.</p>	<p>The project transitioned to a series of routine video conferencing meetings to connect project personnel working remotely and also implemented video conferencing with Italian and American partners to continue progressing project outcomes and collaborations.</p> <p>The project explored COVID-19 impacts with contractors and addressed schedule and milestone expectations with contractors in an attempt to reduce the COVID-19 impact.</p>

## Project Data Summary Sheets

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	As a result of implemented management and business routines COVID-19 impacts have been minimised so far a reasonably practical and addressed as business as usual criteria to consider, this overall profile of this risk has reduced.
<b>Emergent Risks (risk not previously identified but has emerged during 2020-21)</b>	
<b>Description</b>	<b>Remedial Action</b>
Final Training Systems. The revised training devices and services requirements from the capability revalidation activity may be impacted by delays in contracting, contractor delivery performance, and Defence support organisation performance, impacting training schedule achievement.	The capability revalidation activity has provided clarity on the scope of training devices and services needed for the final training system. Medium risks remain in relation to supplier contracting and delivery schedule performance; and in achieving Defence approvals for IT systems and support to hardware procurement. These are being actively managed by the project.
Capability Definition. There is a risk that continued uncertainty during 2020 and early 2021 in the required AIR8000 Phase 2 capability will impact project cost, schedule, and scope.	Air Force advised submission regarding role change to LTFW supported by Government. Detail definition of LTFW capability agreed with Air Mobility Group and Air Force Head Quarters stakeholders, as a result this risk will be closed.

5.2 Major Project Issues

Description	Remedial Action
<b>USAF Divestiture of C-27J.</b> The USAF C-27J divestiture has had a greater than anticipated impact on project budget and schedule. Accelerated USAF divestiture resulted in incomplete Military Type Certification (MTC) by the USAF with unanticipated impact on airworthiness and training outcomes.	Completion of MTC has required additional Project resourcing to achieve FOC on schedule. MTC was achieved in June 20. The delayed start to training in the US translated to a three month delay to achievement of the planned In-Service Date at 35 Squadron. Finalisation and closure of the US-based initial training system has occurred and the interim training system was established in Australia in July 2017.  The capability revalidation activity has provided clarity to remaining project scope, schedule, and cost. Thus this issue is retired.
<b>FMR/FOC requirements.</b> The C-27J Capability will be affected by the inability to complete all requirements on schedule (MTC, IFF mode 5 and spares).	The capability revalidation activity has provided clarity to remaining project scope, schedule, and cost. Thus this issue is retired.
<b>Note</b>	
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
The level of risk and complexity contained in an FMS Letter of Offer and Acceptance is often understated and poorly understood. Whilst an FMS program for <b>in production</b> equipment and associated support affords a number of advantages, the transfer of a significant amount of project and technical management to the US Government implementing agency, and the weak bargaining position of the Commonwealth, increases the project's exposure to technical, schedule and cost risk. For an FMS program 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. This accords the FMS customer a 'Best Endeavours' approach to business. Adequate Commonwealth participation in key project management and technical oversight activities in the US, as provided for in the Government Combined First and Second Pass submission, is critical to providing the necessary level of project and contract management. In the case of C-27J, divestiture has further accentuated project risk and complexity, increasing the need for ongoing engagement of the USAF FMS program office and L-3 PID to ensure Commonwealth requirements and risks are adequately understood and managed. The planned downsizing and closing of the USAF's project office and cessation of USAF C-27J activities and contracts further reduces the ability of the USG to achieve customer requirements normally delivered under the FMS system. This drives the Commonwealth's approach to deliver certain outputs via Direct Commercial Sales.	Contract Management

<p>The practice of approving projects with staffing to be found from within existing Divisional resourcing can result in 'late to need' or understaffing at critical project planning and execution phases that is counterproductive to achieving project outcomes. Further, the recruitment process lead times for candidates not already within the ADF or Australian Public Service can create significant extended vacancies within the Project workforce, with this being exacerbated by the relatively short notice that personnel are obliged to provide for internal transfers. This is exacerbated when the Department imposes a recruiting freeze on the workforce. Whilst outsourced services may be suitable in some instances to mitigate this risk, in such circumstances they are not always available, the most efficient, or affordable, and come with an additional administrative overhead. In particular, rapidly approved projects, such as AIR8000 Phase 2, which gained combined Government Pass approval, should be priority staffed as outlined in the approved project workforce plan, on which the Materiel Acquisition Agreement schedule was developed.</p>	<p>Resourcing</p>
<p>Accelerated project approval, through a combined Government 1st and 2nd Pass, carries additional project execution risk given the likelihood that data fidelity and planning maturity will be otherwise inherently lower. As such, all effort should be made to understand the associated risk premium versus the benefit an accelerated project approval offers. In the case of AIR8000 Phase 2 the potential impact of USAF divestiture was not fully appreciated across the full breadth and depth of the project. Any assumption that because procurement is via FMS it is low risk must be fully tested.</p>	<p>Off-The-Shelf Equipment</p>
<p>Contracting with commercial entities that have had no previous experience with how the Commonwealth contracts, manages, controls, and reviews contract performance requires significant awareness, education and adjusting by both parties. Commonwealth acknowledgement that outcomes can be achieved without following the Commonwealth's usual or embedded processes requires substantial effort by Commonwealth personnel to accept the change, mentor and educate other Commonwealth entities, and to act with restraint towards the contractor. Commonwealth personnel having largely only worked with or in one system, the Commonwealth system, and are challenged to accept other ways to achieve the same outcome.</p> <p>Similarly, processes judiciously established in Defence are not always easily mapped to a civilian entity's system. This requires substantial detailed communication and time commitment to map dissimilar system outcome points between the two organisations' systems by Subject Matter Experts in that field - this takes time and effort that may not have been foreseen.</p>	<p>Contract Management</p>
<p>Although C-27J is a <b>mature in production</b> aircraft the project was required to update a number of systems to achieve the directed outcomes for FMR/FOC.</p> <p>Where a project has a challenging acquisition and implementation period, the Sponsor and Capability Manager must be closely engaged to ensure the requirements set maintains relevance over time, especially leading up to key capability milestones.</p>	<p>Requirements Management</p>

**Section 7 – Project Line Management**

7.1 Project Line Management as at 30 June 2021

Position	Name
Division Head	AVM Gregory Hoffmann
Branch Head	AIRCDRE Graham Edwards