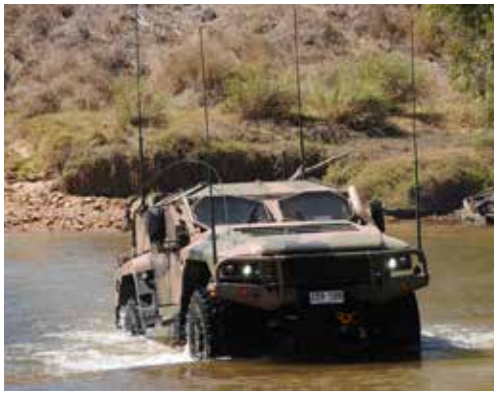
Project Data Summary Sheet[150]

Project Number	**LAND121 Phase 4**
Project Name	**Protected Mobility Vehicle – Light**
First Year Reported in the MPR	2016-17
Capability Type	Replacement
Capability Manager	Chief of Army
Government 1st Pass Approval	Oct 08
Government 2nd Pass Approval	Aug 15
Budget at 2nd Pass Approval	$1,945.0m
Total Approved Budget (Current)	$1,962.9m
2021-22 Budget	$338.5m
Complexity	ACAT I



Section 1 – Project Summary

1.1 Project Description

LAND121 Phase 4 will acquire and deliver into service 1100 Protected Mobility Vehicles – Light (PMV-L) and 1058 companion trailers for command, liaison, reconnaissance and utility roles; and the associated training and support systems.
The PMV-L will replace around one third of the current Land Rover fleet, and represents a brand new capability that will provide the Australian Defence Force (ADF) with a highly protected and deployable light vehicle fleet designed to provide an optimum balance of six fundamental requirements: survivability, mobility, useability, payload, sustainability and communications.
The PMV-L fleet will consist of two variants, which may perform specific mission roles:

- 4-Door PMV-L: The 4-Door vehicle may perform the following roles:
  - Command - Carriage of up to four personnel with additional integrated electronic command, control and communication systems.
  - Liaison - Carriage of up to four personnel with a general communication fit.
  - Reconnaissance - Carriage of up to four personnel to perform light infantry, reconnaissance and Air Force security functions.
- 2-Door PMV-L: The 2-Door vehicle will perform the following role:
  - Utility - Carriage of two personnel and cargo.

Thales Australia has been contracted by Defence for the development, production and through-life-support of the PMV-L capability. Thales Australia is also the nominated Prime Systems Integrator for the Integral Computing System (ICS).

1.2 Current Status

Cost Performance

In-year

As at 30 June 2022, financial year 2021/22 expenditure was $341.1m against the budget of $338.5m. The variation of $2.6m is primarily due to foreign exchange for the financial year 21/22.

Project Financial Assurance Statement

As at 30 June 2022, LAND121 Phase 4 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 scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

Initial Materiel Release (IMR) and Initial Operating Capability (IOC) were re-scheduled to May 2020 and December 2020 respectively, due to Hawkei reliability issues, design maturity and the production delays caused by Steyr Motors' voluntary administration.
Remedies under the contract, including liquidated damages, were received during 2020-21 as a result of the reliability issues. While stop payments had previously been initiated, none occurred during the 2020-21 Financial Year.
Army endorsed the declaration of IMR with caveats on 26 May 2020. The caveats related to delays in the delivery of some elements of the Hawkei Support System, and Verification and Validation activities, primarily due to COVID-19 restrictions. As at 30 June 2021, all caveats had been resolved.

150 Notice to reader

Forecast dates and Sections: 1.2 (Materiel Capability/Scope Delivery Performance), 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel 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.

Defence formally advised Thales on 30 September 2020 that it had been granted approval to exit Stage 2 – Low-Rate Initial Production and enter Stage 3 – Full Rate Production.
Army's declaration of IOC was deferred a further six months, pending resolution of a vehicle safety incident that occurred on 23 November 2020. Defence temporarily suspended the use of the Hawkei fleet on 25 November 2020 until the issue was resolved. The incident involved the application of the Anti-Lock Braking System (ABS) under specific operating conditions. Thales developed a technical solution to resolve the issue, which was to be implemented by June 2022. Additional testing of the ABS software solution has delayed the implementation across the Hawkei fleet until November 2022 and administrative controls remain in place to allow the safe operation of the vehicle.
The Hawkei commenced Phase-In into the Protected Mobility Family of Vehicles Through Life Support Contract on 03 May 2021.
Army declared IOC for the Hawkei on 20 May 2021.
Thales Australia successfully completed all Phase in Activities, and the Hawkei Operative Date under the Through Life Support Contract formally commenced on 26 November 2021.

Materiel Capability/Scope Delivery Performance
16 PMV-L pre-production baseline vehicles and nine trailers were delivered for development and testing purposes under Stages One and Two. The acceptance process for the Low-Rate Initial Production (LRIP) vehicles and trailers commenced in January 2018, with the first vehicles being formally accepted by the Commonwealth in March 2018. The Commonwealth has accepted 784 vehicles and 752 trailers.
Defence conducted a trial involving the deployment of two Hawkei vehicles to Iraq and Afghanistan. The vehicles were deployed into Iraq as part of Task Group Taji and then redeployed in April 2018 to the Australian contingent in Kabul, Afghanistan. This trial commenced in December 2017 and concluded in August 2018. The key trial objectives included the identification of operational and support issues and deployment considerations for the Hawkei capability.
Thales advised the Commonwealth on 29 November 2018 that the Hawkei engine supplier, Steyr Motors, had entered into voluntary administration, which would result in a delay in the supply of engines. Thales advised Defence that it had acquired Steyr Motors on 23 August 2019. Thales' procurement of Steyr Motors will ensure the continuity of engine supply and the long-term sustainability of the Hawkei program. The IMR milestone was re-scheduled to May 2020 due to Hawkei reliability issues, design maturity and production delays caused by Steyr Motors entering voluntary administration.
The Hawkei support system continues to be developed. Operator Training commenced at the Army School of Transport in September 2018. Maintainer Training commenced in November 2019 at the Army School of Electrical and Mechanical Engineers.
A Hawkei Operational Test and Evaluation activity was successfully conducted in August 2020 to inform Army's declaration of IOC.
The Systems Acceptance Audit (SAA) was conducted in two parts on 8 September 2020 and 1-3 December 2020. SAA Part One confirmed that the Hawkei mission and support systems met the required specification. Thales Australia was granted approval to exit SAA Part One on 16 September 2020.
SAA Part Two confirmed the Hawkei FRP design baseline and associated support system is delivered as contracted. Thales Australia was granted approval to exit SAA Part Two on 20 August 2021.
LAND121 Phase 4 has rolled out 233 Hawkei vehicles as at 30 June 2022, to Army units in Perth, Adelaide, Brisbane, Darwin and Townsville, as well as to Army training units in Puckapunyal and Bandiana.

Note

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

1.3 Project Context

Background
LAND121 Phase 4 was established to address a new capability requirement within the ADF's land mobility assets emanating from the absence of lightweight and light class field vehicles with the requisite levels of ballistic and blast protection.
At First Pass in October 2008, Government agreed for Defence to pursue the development of a 'next generation' PMV-L by joining the US Joint Light Tactical Vehicle (JLTV) Program (Option One) and at the same time retain the possibility of acquiring a Market Available Vehicle (MAV) in the event JLTV proves unsuitable (Option Two). In May 2009, Government directed that an Australian indigenous option for PMV-L be considered. In June 2009, a Manufactured and Supported in Australia (MSA) Option (Option Three) was included in LAND121 Phase 4 through the release of a Request for Proposal. In 2009, Defence paid $43.0m to pursue the development of a 'next generation' PMV-L by joining the US Joint Light Tactical Vehicle (JLTV) Program. The funding was provided by Capability Development Group and has not formed part of the LAND121 Phase 4 project budget. First to Interim Pass funding was provided in November 2009 following approval of Materiel Acquisition Agreement (MAA) V2.0, where Government agreed that LAND 121 Phase 4 would return to Government for an Interim Pass decision on which option was to be pursued to Second Pass.
In May 2010, Government agreed that the MSA Option be further investigated prior to Interim Pass through the conduct of initial prototyping activities. On 30 June 2010, a draft schedule for each option to deliver the PMV-L capability was submitted to the Government for consideration. Stage One MSA funding was provided in July 2011 following approval of MAA V2.1. Stage One of the MSA Option consisted of assessing six developmental Line of Departure vehicles (LOD) that met the Australian content requirement. Two from each of the three companies - Force Protection Europe Ltd, General Dynamics Land Systems-Australia and Thales Australia Ltd against function and performance specifications and value for money. Through the procurement process, it was determined that there were no off-the-shelf options available that met all ADF requirements.
At Interim Pass in December 2011, Government refined its direction to the following:

- Directed Defence to cease active participation in the US JLTV Program;
- Selected Thales Australia's PMV-L as the preferred vehicle for further development and testing under Stage Two of the MSA Option (Option Three); and
- Directed Defence to continue observing the US JLTV Program, given its potential to provide an alternative at Second Pass.

Interim pass funding was provided in April 2012 following approval of MAA V3.0. Defence entered into Stage Two of the MSA Option with Thales Australia to carry out further development of their PMV-L, culminating in a program of trials and testing of the prototypes in late 2013. Additional development work and testing were carried out in 2014 under the MSA Stage Two through a Risk Reduction Activity (RRA) aimed at reducing residual technical risk to an acceptable level.
The acquisition contract mandates that a minimum of fifty percent of the production or manufacturing costs are to be incurred in Australia.
In August 2015, Government provided Second Pass Approval for LAND121 Phase 4 to acquire Thales Australia's PMV-L. Second Pass funding was provided in September 2015. Subsequently, LAND121 Phase 4 signed a contract in October 2015 with Thales Australia to acquire and support 1100 PMV-L vehicles and 1058 trailers. The Acquisition Contract contains three distinct stages that reflect the developmental nature of the PMV-L capability, and which minimises production rework:

- Stage One: Engineering and Manufacturing Development. Includes the provision of 10 vehicles and five trailers, including test vehicles and trailers; the conduct of a vehicle RGT and other developmental test and evaluation activities. Acceptance of these results by Defence was required prior to exiting Stage One.
- Stage Two: Low-Rate Initial Production (LRIP). Includes the production of 100 vehicles and 100 trailers, plus six test vehicles and four trailers based on an approved production baseline; the conduct of a PRAT, and final acceptance testing and evaluation activities.
- Stage Three: Full-Rate Production. The production of the remaining vehicles and trailers based on the approved FRP baseline, and the achievement of IMR and Final Materiel Release (FMR). This stage will also include the uplift of all LRIP vehicles and trailers to the FRP build standard.

Support requirements for the PMV-L have been incorporated into the existing Protected Mobility Vehicle-Medium (Bushmaster) Through Life Support Contract. It is anticipated that integrating the support arrangements for both fleets will reduce the overall cost of ownership of the vehicle systems by approximately $270 million over the 15-year life of the vehicle systems.
In October 2021, Government approved a reduction to project scope of two Hawkei vehicles for buy-back by Thales to support a potential export opportunity. The reduction in the total quantity of vehicles to be delivered to the Commonwealth from 1100 to 1098 will be formalised through an update to the MAA and a change in the acquisition contract.

Uniqueness

LAND121 Phase 4 is a developmental project specifically designed to meet the ADF's requirements. The uniqueness of the PMV-L stems from the combination of the following in a single vehicle:

- A high level of blast, ballistic and fragmentation protection, enabling greater deployability within high risk operational environments.
- External Air Transport Mass, enabling the capability to be the ADF's only protected vehicle capable of being lifted by ADF Chinook helicopters.
- A next-generation Generic Vehicle Architecture based C4I solution - ICS.
- Utilise a modular armour system to enable enhanced protection based on mission specific roles.

Major Risks and Issues

The Project currently has three 'high' rated risks and one 'high' rated issue (pre-mitigation rating).

The three 'high' rated risks in section 5.1 are:

- There is a chance that disruptions as a result of the COVID-19 pandemic will cause delays in the achievement of project milestones.
- There is a chance that the integration of interdependent projects onto the Hawkei will delay the rollout of vehicles to Army.
- There is a chance there will not be time to train the quantity of personnel required to undertake Hawkei Introduction Into Service Training to achieve Army's Directed Training Requirement (DTR) by FOC.

The one 'high' rated issue in section 5.2 is:

- There is a chance that the rollout of the PMV-L and the establishment of its support system will be impacted by constrained resourcing, impacting the delivery of Engineering and Integrated Logistics Support Deliverables.

Other Current Related Projects/Phases

LAND121 is a multi-phased program providing the ADF with current-generation high-capability field vehicles, modules and trailers. The other current LAND121 projects are:

- LAND121 Phase 3B – This project is providing the ADF with 2,707 protected and unprotected medium and heavy vehicles, along with 1,753 matched trailers. This will provide payloads of between four and seventy tonnes for a range of logistics functions, including vehicle recovery, freight, bulk liquid distribution and personnel carriage.
- LAND121 Phase 5B – This project is a follow-on acquisition from LAND121 Phase 3B, and is providing the ADF with an additional 1,044 medium and heavy vehicles, 872 modules and 812 trailers.

LAND200 Tranche 2 – This project expands LAND200 Tranche 1 capability across Army with new collaborative planning, control and monitoring tools for Brigade and Divisional level headquarters and integrates the system into additional platforms. The two major sub-systems of the Battlefield Command Systems are the Battle Management System and the Tactical Communications Network. Refer to Section 2.3 for further information relating to the contractual arrangements between LAND200 Tranche 2, LAND121 Phase 4 and Thales Australia.

LAND154 Phase 4 – This project replaces the ADF's existing Force Protection Electronic Counter Measures (FPECM) capability through improved Military off the Shelf technology, procured via the United States Foreign Military Sales program. FPECM mission systems will include both a Dismounted system and a Vehicle Mounted System (VMS). The VMS will be integrated onto a range of ADF mobility platforms, including the Hawkei.

LAND19 Phase 7B – This project will acquire a new short range ground based air defence capability, replacing Army's existing RBS-70 system. Under the scope of LAND19 Phase 7B, the tactical radar and high mobility launcher system will be integrated onto the Hawkei mission system.

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			
May 08	Original Approved (Government Real	1.8		
Nov 09	Variation – Scope	5.7		1
Jul 11	Real Variation – Scope	31.5		2
Apr 12	Real Variation – Scope	48.4		3
Sep 15	Government Second Pass Approval	1,857.6		
	Total at Second Pass Approval		**1,945.0**	4

Jul 10	Price Indexation		0.4	5
Jun 22	Exchange Variation		17.7	
Jun 22	**Total Budget**		**1,962.9**	
	Project Expenditure			
Prior to Jul 21	Contract Expenditure – Thales Australia (Prime Contract)	(1,042.8)		
	Contract Expenditure – Thales Australia prototyping activities (MSA Stage One and Stage Two Contract)	(58.7)		
	Other Contract Payments / Internal Expenses	(84.5)		7
			(1,186.0)	
FY to Jun 22	Contract Expenditure – Thales Australia (Prime Contract)	(319.8)		
	Other Contract Payments / Internal Expenses	(21.3)		8
			(341.1)	
Jun 22	**Total Expenditure**		(1,527.1)	
Jun 22	**Remaining Budget**		**435.8**	9

Notes	
1	This amount reflects funding approval at First Pass Approval.
2	This amount reflects approval to undertake MSA Stage One prototyping.
3	This amount reflects funding approval at Interim Pass for MSA Stage Two prototyping.
4	The Budget and Expenditure amounts do not reflect the $43.0m paid in 2009. Due to the payment being provided by Capability Development Group and was not part of the LAND121 Phase 4 project budget.
5	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $0.3m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $0.1m having been applied to the remaining life of the project
6	These expenditures relate to pre Second Pass costs associated with exploring the Government initiated MSA Option (Option Three) and the contracts are now closed.
7	Expenses comprise of: MAV prototyping activities ($17.7m); External Service Providers ($25.4m), Non-Prime contracts ($17.9m); costs related to testing / trials ($8.0m); Project administrative costs ($5.8m); Support Contract Phase-In Payments ($5.8m); Legal costs ($2.2m) and US JLTV Program ($1.8m).
8	Expenses comprise of: Non-Prime contracts ($11.7m); External Service Providers ($7.0m); Support Contract Phase-In costs ($2.5m); Admin and legal costs ($0.1m).
9	Totals in the columns may not total due to rounding.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
548.1	341.1	338.5	PBS – PAES: The variation is primarily due to the schedule delays caused by the braking problem. PAES – Final Plan: The variation is primarily due to Foreign Exchange updates.
Variance $m	(207.0)	(2.6)	Total Variance ($m): (209.6)
Variance %	(37.8)	(0.8)	Total Variance (%): (38.2)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			Australian Industry	The variation is primarily due to Foreign Exchange updates.
			Foreign Industry	
			Early Processes	
		2.6	Defence Processes	
			Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
338.5	341.1	2.6	**Total Variance**	
		0.8	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at Signature $m	Price at 30 Jun 22 $m	Type (Price Basis)	Form of Contract	Notes
Thales Australia	Jul 10	9.0	58.7	Firm	Standard Defence Contract	3
Thales Australia	Oct 15	1,328.5	1,566.8	Fixed	Standard Defence Contract	1, 2, 4, 5, 6, 7

Notes	
1	Price variation from Contract Signature is due to approved Contract Change Proposals (CCP), predominantly to progress the development and integration of ICS.
2	Contract value as at 30 June 2022 is based on actual expenditure to 30 June 2022 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

3	Price variation from contract signature was to exercise the MSA Stage Two option.
4	The contract has been re-evaluated as being a 'fixed' price because the contract value is 'fixed', plus price escalation.
5	The contract price and scope were increased under CCP078 to incorporate the LAND200 Tranche 2 design work.
6	Costs related to the LAND200 Tranche 2 design, procurement and installation will be funded by LAND200 ($12.5m), while this project contributes $2.0m primarily for the design, development and installation of the vehicle installation harnesses for Royal Australian Air Force (RAAF) and Protected Mobility Integrated Capability Assurance (PMICA) vehicles.
7	The contract incorporates liquidated damages received during 2020-21 of $6.2m via CCP086.

Contractor	Contracted Quantities as at Signature	Contracted Quantities as at 30 Jun 22	Scope	Notes
Thales Australia	2 PMV-L	8 PMV-L	Design, develop and demonstrate prototype vehicles	
Thales Australia	1100 PMV-L and 1058 Trailers	1100 PMV-L and 1058 Trailers	Thales Australia is contracted to deliver 1100 PMV-L (635 4-Door and 465 2-door vehicles) and 1058 Trailers.	Note 1&2 below, Note 6 above

Major equipment accepted and quantities to 30 Jun 22

Defence received 10 pre-production baseline vehicles and five trailers from Thales Australia on schedule for the purpose of various test and evaluation activities under Stage One (Engineering and Manufacturing Development) of the LAND121 Phase 4 Acquisition Contract. Defence received an additional six pre-production baseline vehicles and four trailers for reliability testing, and verification & validation activities in Stage Two. The Commonwealth has accepted 784 vehicles and 752 trailers as at 30 June 2022, which includes the 138 vehicles and 138 trailers required for Initial Materiel Release.

Notes

1	The 16 test vehicles and nine test trailers for development and testing activities are in addition to the 1,100 PMV-L and 1058 trailers.
2	In October 2021, Government approved a reduction to project scope of two Hawkei vehicles for buy-back by Thales Australia to support a potential export opportunity. The reduction in the total quantity of vehicles to be delivered to the Commonwealth from 1100 to 1098 will be formalised through an update to the MAA and a CCP, which will be executed in FY22/23.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System/Platform Variant	Original Planned	Current Contracted	Achieved/Forecast	Variance (Months)	Notes
Detailed Design	PMV-L and Trailer	Mar 16	N/A	Apr 16	1	1
	ICS	Jan 17	N/A	Dec 16	(1)	2
Preliminary Design	ICS	Sep 16	N/A	Sep 16	0	
Critical Design	PMV-L, Trailer and ICS	Apr 17	Aug 17	Oct 17	6	3
Support System Detailed Design (Operator)	Support System	Jun 17	Jun 18	Aug 18	14	4,5
Support System Detailed Design (Maintainer)	Support System	Jun 17	Jan 19	Jun 20	36	5,6

Notes

1	The variance is caused by the Contractor's delay in closing out the action items.
2	The Contractor and the project agreed to conduct the Review early, thus the early achievement. The Commonwealth approval of ICS Detailed Design Review Minutes of Meeting was achieved on 19 December 2016.
3	The variance is due to the vehicle performance exceeding the number of critical failures allowable under RGT. Stage One (Engineering and Manufacturing Development) was extended by a four month period via CCP032 (executed 05 April 2017) to allow Thales Australia to remediate the critical failures and to undertake an additional RGT in order to fulfil the contractual requirements under Stage Two.
4	The variance of Support System Detailed Design Review (SSDDR) of 14 months is due to the LRIP baseline not being ready for review until Critical Design Review exit in October 2017 and the contractor failed to meet the entry criteria in the SSDDR Checklist.
5	The SSDDR was split into separate 'Operator' and 'Maintainer' reviews after the execution of CCP055 in November 2018 to align the training deliverables with the Introduction Into Service of the capability.
6	An additional eight month delay to SSDDR (Maintainer) occurred due to delays in finalising the Hawkei Reliability Program, which impacted the finalisation of the Full-Rate Production vehicle baseline. The Commonwealth confirmed formal exit of SSDDR to Thales on 19 June 2020.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System/Platform Variant	Original Planned	Current Contracted	Achieved/Forecast	Variance (Months)	Notes
Maintenance Demonstration	PMV-L, Trailer and ICS	Dec 16	Dec 16	Jul 17	7	1
Reliability Growth Trial (RGT)	PMV-L and Trailer	Mar 17	Jul 17	N/A	N/A	2
Reliability Demonstration Test (RDT)	PMV-L and Trailer	Feb 18	N/A	Nov 18	9	3
Development Test & Evaluation (DT&E)	PMV-L, Trailer and ICS	Mar 17	Sep 17	Sep 17	6	4
Initial Maintenance Evaluation	PMV-L, Trailer and ICS	Oct 17	Jan 18	Jun 18	8	5
Final Maintenance Evaluation	PMV-L, Trailer and ICS	TBA	N/A	TBA	N/A	5,6
Acceptance Verification and Validation (AV&V)	PMV-L, Trailer and ICS	Jun 18	Jan 19	Jul 20	25	7,8
Production Reliability Acceptance Test (PRAT)	PMV-L and Trailer	Jun 18	Jan 19	Jun 20	24	8,9
Low-Rate Initial Production (LRIP) Acceptance Last Batch	PMV-L, Trailer and ICS	Jun 18	Jan 19	Oct 19	16	7,8

Full-Rate Production (FRP) Acceptance Last Batch	PMV-L, Trailer and ICS	Oct 20	May 21	Oct 22	24	7,8,10

Notes

1	The variance is due to the Commonwealth rejecting the first two versions of the Maintenance Demonstration Acceptance Verification Reports (AVR) submitted on 24 January 2017 and 30 March 2017. The approved version of the report was submitted to the Commonwealth on 01 June 2017, with the Notice of Approval signed on 03 July 2017.
2	RGT was separated into the following three activities: • RGT Number One was conducted over the period July to December 2016 and provided Thales with the opportunity to resolve any issues with the vehicles ahead of the formal trial activities that commenced under RGT Number Two. • RGT Number Two commenced in November 2016. In January 2017, the pilot Hawkei vehicles had exceeded the seven allowable critical failures under the contract. Identified key root causes include supplier quality issues and immature components affecting hardware and software integration. A six-week corrective action period was implemented to allow Thales to undertake engineering upgrades. • RGT Number Three (May to July 2017) followed this, which demonstrated reliability improvements on a number of sub-systems, but a number of recurring failures were evident.
3	Thales Australia was granted exit of Stage One (Engineering and Manufacturing Development) on 5 September 2017, with the caveat that Thales Australia continued to address the reliability issues. The Reliability Demonstration Trial was introduced as a Contract Change to confirm that failures identified during the RGT had been rectified before entering into the Production Readiness Acceptance Test. The nine months delay in completing RDT is due to the delay in remediating the outstanding reliability issues.
4	As part of the extension of Stage One (Engineering and Manufacturing Development), DT&E was extended to facilitate further development testing and to mitigate against the AV&V activities required under Stage Two (LRIP).
5	The approval of AVR for the Initial Maintenance Evaluation (ME) was delayed by seven months due to the initial submission of the report being rejected by the Commonwealth, primarily due to the incompleteness of the Interactive Electronic Technical Publication (IETP) presented by Thales Australia.
6	Thales' compliance against the deficiencies identified in the initial ME were addressed in the second ME. Subsequent ME have been conducted to address engineering changes as the vehicles design developed. The Final ME will be scheduled when the final list of engineering changes to be included has been determined.
7	AV&V was delayed by 25 months due to the requirement to extend reliability testing, which impacted on the date that the LRIP vehicle build state was established between the Commonwealth and Thales. The delay in establishing the vehicle build state impacted on vehicle availability to conduct AV&V activities. The reliability issues, design maturity and production delays further impacted the completion of AV&V. Sea, air and rail Verification and Validation activities were previously delayed by COVID-19 movement restrictions, but were completed prior to the declaration of IOC. The External Airlift Trial demonstrated the Hawkei can be airlifted under a CH-47. Further airlift trials are required to complete the characterisation of the Hawkei in all configurations.
8	As part of the extension of Stage One (Engineering and Manufacturing Development), the start dates of some Stage Two (LRIP) and Stage Three (FRP) activities were delayed.
9	PRAT was finalised on 10 June 2020 with the Commonwealth's approval of the Integrated Reliability Maintainability and Testability Report from Thales Australia.
10	Defence is assessing in detail the project's revised vehicle delivery schedule from Thales against the projects milestones. The revised schedule factors in delays due to Thales' Full-Rate Production capacity, the requirement to uplift early production vehicles to the contracted product baseline, the vehicle braking safety issue, and COVID-19 global supply chain challenges

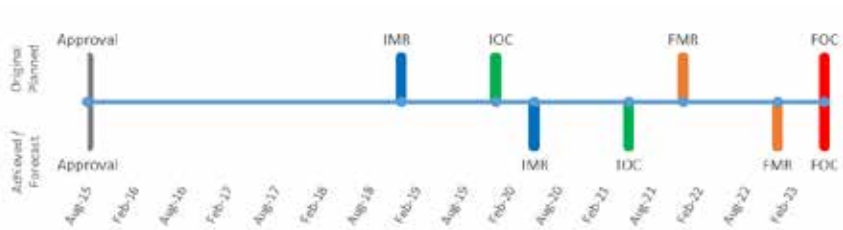
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Dec 18	May 20	17	1,2
Initial Operational Capability (IOC)	Dec 19	May 21	17	1
Final Materiel Release (FMR)	Dec 21	Dec 22	12	3,4
Final Operational Capability (FOC)	Jun 23	Jun 23	0	4

Notes

1	IMR was initially deferred by five months to enable the conduct of an additional vehicle reliability demonstration activity (four months) and the extension of Introduction into Service Training and the associated increase in vehicle deliveries (one month). IMR and IOC were re-scheduled by 12 months to May 2020 and December 2020 respectively, due to Hawkei reliability issues, design maturity and production delays caused by Steyr Motors entering voluntary administration. IOC was further deferred until June 2021, pending resolution of the vehicle safety incident. IOC was declared on 20 May 21.
2	IMR was declared with caveats in May 2020. These caveats have now been resolved.
3	FMR has been forecast for December 2022 due to vehicle integration dependencies. Please refer to note 10 of Section 3.2 above.
4	Defence and Thales are assessing the ability to achieve the Final Material Release and Final Operating Capability milestones in accordance with the current schedule of December 2022 and June 2023 respectively, in light of challenges meeting Full-Rate Production and uplift capacity, DTR and COVID-19 related disruptions to global supply chains.

Schedule Status at 30 June 2022



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 materiel capability requirements as expressed in the Materiel Acquisition Agreement and in accordance with the requirements of the Technical Regulatory Authorities.
	**Amber:**
	**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.

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)	IMR was achieved with caveats in May 2020. As at 30 June 2021, all of these caveats have been resolved. The below was delivered at IMR: • 108 PMV-L and 108 Trailers to be delivered in accordance with the Force Generation Cycle; 22 PMV-L and 22 Trailers for Introduction Into Service Training (increased from 14 PMV-L and 14 Trailers); • Eight PMV-L and eight Trailers for the conduct of Verification and Validation (V&V), and PRAT; and • Logistics support arrangements, including Training, Supply and Maintenance Systems.	Achieved
Initial Operational Capability (IOC)	IOC was declared in May 2021. Declaration of IOC was made by the Capability Manager following the conduct of a Battle Group sized Operational Test and Evaluation (OT&E) activity to validate the Hawkei Fundamental Input to Capability components.	Achieved
Final Materiel Release (FMR)	FMR is a future dated milestone projected for December 2022. By FMR, the following will be delivered: • 1100 PMV-L and 1058 Trailers; and • Introduction Into Service (IIS) Training and transfer of IIS training packages.	Not yet achieved

Final Operational Capability (FOC)	FOC is a future dated milestone projected for June 2023. Declaration of FOC will be made by the Capability Manager supported by the results of OT&E and confirmation by the Delivery Group (CASG) that the Fundamental Input to Capability components have been delivered as agreed. The FOC criteria are to be defined by the Capability Manager.	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
There is a chance that misalignment of interdependent project schedules to support Hawkei integration will delay the rollout to Army.	• Thales Australia to complete an early Long Lead Time Item procurement for LAND200 components. • Establishment of a LAND200 communications suite that can be fitted with T1 or T2 radios.
There is a chance that disruptions as a result of the COVID-19 pandemic will cause delays in the achievement of project milestones.	• Project and Branch senior leadership continue to provide oversight and regularly engage with Thales leadership to review actions plans. • Close engagement between the Project Officer and Capability Manager to ensure the milestones requirements and capability delivery priorities are aligned. • This risk has been reclassified from medium to high risk rating.
There is a chance that there will not be enough time to train the quantity of personnel required to undertake Hawkei Introduction Into Service Training to achieve Army's Directed Training Requirement (DTR) by FOC.	• Adjustment of training milestones in the MAA, as agreed to between the Project Office and the Capability Manager. • Establishment of regional training teams to increase training throughput. • Working group convened between the Project Office, Capability Manager and Army Logistic Training Centre to develop solutions to address the issue. • Working group meets periodically to track DTR achievement. • Remedial actions continue to be implemented to achieve DTR in accordance with the current project schedule. • This issue is now being managed as a risk.
Emergent Risks (risk not previously identified but has emerged during 2021–22)	
Description	Remedial Action
N/A	N/A

5.2 Major Project Issues

Description	Remedial Action
There is a chance that the rollout of the PMV-L and the establishment of its support system will be impacted by constrained resourcing, impacting the delivery of Engineering and Integrated Logistics Support Deliverables.	• Monitoring of deliverables against agreed schedule. • Weekly progress meetings between the Project team and the vendor. • Fortnightly meetings between senior Commonwealth and vendor representatives.

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
Developmental Capability. The PMV-L is a technically complex development project that requires active engagement with the contractor, multiple interagency stakeholders and projects from other domains. Maintaining close collaboration and communication with all stakeholders is critical for understanding the technical requirements for a first-of-type capability, and facilitating proactive risk management and contingency planning.	First of Type Equipment
Adequate Resourcing. First-of-type projects contain significant levels of complexity and require substantial effort to fulfil the right balance of technical, performance, risk, cost and schedule requirements. Appropriate investment is required by projects and the contractor from the outset to ensure such requirements are not over-optimistically represented or underestimated. Projects operating in a developmental environment are to pay greater attention to workforce management and project governance. The project is also to frequently assess contractor resources, capabilities and capacity in the lead up and during project delivery.	Governance Contract Management First of Type Equipment

Support from External Subject Matter Experts. A number of external subject matter experts with vast Defence and commercial experience were engaged during Tender Evaluations and Negotiations, and the Acquisition Phase, for advice and to provide independent assessments of technical, commercial and financial matters. Active participation of external advisors during Tender Evaluations and Negotiations, and the Acquisition Phase, considerably improved the project's understanding and approach towards commercial, industry and programmatic issues. The Project should engage external Subject Matter Expertise during the Sustainment Phase to ensure the ongoing improvement and sustainability of a complex platform, and to seek efficiencies using a programmatic approach.	First of Type Equipment
Integrated ICS Team. The uncertainty in developing the ICS concept would have benefited from having an integrated and centralised team consisting of: • PMV-L project staff • Staff from other interrelated communication projects • Capability Manager specialists • External subject matter experts/contractors • Specialist staff such as engineers.	Resourcing Contract Management
Vehicle Acceptance Resourcing and Planning. The early planning and generation of dedicated Commonwealth Production Liaison and Vehicle Acceptance staff (and processes) enables improved planning in conjunction with the OEM for Vehicle Acceptance and QA processes. This improves transition from design into the production and vehicle acceptance stage of the program.	Contract Management Governance Resourcing
Hawkei Reliability Growth. Reliability programs must incorporate sufficient schedule for reliability growth of the capability to set the conditions for a successful outcome. Reliability fixes must be supported by Objective Quality Evidence before proceeding to the next reliability test.	Schedule Management Requirements Management

Section 7 – Project Structure

7.1 Project Structure as at 30 June 2022

Unit	Name
Division	Land Systems
Branch	Land Vehicle Systems Branch