Project Data Summary Sheet[129]

Project Number	**LAND 121 Phase 4**
Project Name	**Protected Mobility Vehicle – Light**
First Year Reported in the MPR	2016-17
Capability Type	Replacement
Acquisition Type	Developmental
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)	$1,952.0m
2017-18 Budget	**$198.8m**
Project Stage	**Detailed** Design Review
Complexity	ACAT I

Section 1 – Project Summary

1.1 Project Description

LAND 121 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. Stage 1 (Engineering and Manufacturing Development) of the project delivered 10 vehicles and 5 trailers for various test and evaluation activities. Stage 2 (Low Rate Initial Production) delivered an additional six vehicles and four trailers for reliability testing and verification / validation activities. Stage 2 will also deliver the first 100 production vehicles and trailers. Stage 3 (Full Rate Production) will deliver the remaining 1000 production vehicles and 958 trailers.**

The PMV-L will replace around one third of the current Land Rover fleet, and represents a 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, usability, payload, sustainability and communications.

The PMV-L will be the ADF's only protected vehicle capable of being lifted by ADF Chinook helicopters. The vehicle will also pioneer a next-generation open architecture communications management system, the Integral Computing System (ICS), which will unify the vehicle's various communications systems through a common interface.

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 ICS.

129 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 Assurance Report* by the Auditor-General in **Part 3** of this report.

1.2 Current Status

Cost Performance

In-year

As at 30 June 2018, financial year 2017-18 expenditure was confirmed as $190.4m against the forecast expenditure of $198.8m. Variance is due to re-phasing of C4I deliverables into Financial Year 2018-19 ($6.7m), delays in Test and Evaluation activities ($2.1m); and rescheduling of Interim Logistic Support arrangements ($1.4m). Procurement of planned Government Furnished Equipment requirements totalling $1.7m has partially offset this variance.

Project Financial Assurance Statement

As at **30 June 2018**, the project has reviewed its approved scope and budget for those elements required to be delivered by Defence. Having reviewed the current financial and contractual obligations 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

Under Stage 1 (Engineering and Manufacturing Development) of the LAND 121 Phase 4 Acquisition Contract, Thales Australia delivered 10 vehicles and five trailers on schedule for the purpose of further development and testing. As part of Stage 1 (Engineering and Manufacturing Development), Thales Australia **conducted** a Reliability Growth Trial (RGT). During RGT, the performance of the vehicles exceeded the number of critical failures allowable **under the contract**. Defence **required** Thales Australia to remediate these critical failures in order to fulfil the contractual reliability requirements of this Stage. This remediation activity resulted in an additional RGT, extending Stage 1 by a further four months.

The 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.**

Thales Australia was granted exit of Stage 1 on 5 September 2017, with the caveat that Thales Australia continued to address the reliability issues. A Reliability Demonstration Test will be conducted to confirm that the reliability improvements have been implemented prior to Production Readiness Acceptance Testing (PRAT) and progress into Full Rate Production. Delays have been incurred due to the reliability issues. The achievement of key milestones is reliant on the resolution of these issues.

From July 2016 the system definition for the ICS was finalised and design reviews successfully undertaken on schedule. An ICS Integration Lab was established **in Sydney with** stand-alone and on-vehicle demonstrations of the ICS capability **completed** as contracted. The project **achieved a** live demonstration of the ICS with the Capability Manager **on 31** July 2017.

In March 2017, the PMV-L successfully passed scheduled survivability test events for the specified level of under-belly land mine threat. **Under-wheel blast testing was successfully completed in June 2018. An external air lift trial was successfully conducted over June-July 2017 at Townsville on test vehicles (two-door and four-door vehicles) and trailers in various load states.**

The Commonwealth entered into Stage 2 with Thales Australia in September 2017. Acceptance of the Stage 2 test and evaluation activities (Reliability Demonstration Test and Production Readiness Acceptance Test) by Defence is required prior to exiting Stage 2. The Project Office continues to work with Thales Australia to realise the capability deliverables as per the contract.

Materiel Capability Delivery Performance

16 PMV-L **pre-production baseline** vehicles and **nine** trailers have been delivered **for development and testing purposes in Stages 1 and 2. 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 currently accepted 20 LRIP vehicles and 20 trailers (out of a total of 1100 vehicles and 1058 trailers planned for delivery into service).**

Defence is conducting a trial involving the deployment of two Hawkei vehicles to Iraq and Afghanistan. The vehicles were initially sent into Iraq as part of Task Group Taji and the trial will now continue with the Australian contingent in Kabul, Afghanistan. This trial commenced in December 2017 and is expected to conclude by August 2018. The key trial objectives include the identification of critical operating issues and deployment considerations for the Hawkei capability.

Note

The capability assessments and forecasts by Defence are not subject to the ANAO's assurance review.

1.3 Project Context

Background

LAND 121 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 1) and at the same time retain the possibility of acquiring a Market Available Vehicle (MAV) in the event JLTV proves unsuitable (Option 2). 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 3) was included in LAND 121 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 LAND 121 Phase 4 project budget. First to Interim Pass funding was provided in November 2009 following approval of MAA V2.0. Where, Government agreed that Land 121 Phase 4 would return to Government for an Interim Pass decision on which option is 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 1 MSA funding was provided in July 2011 following approval of Materiel Acquisition Agreement (MAA) V2.1. Stage 1 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 2 of the MSA Option (Option 3); 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 2 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 2 through a Risk Reduction Activity (RRA) aimed at reducing residual technical risk to an acceptable level.

In August 2015, Government provided Second Pass Approval for LAND 121 Phase 4 to acquire Thales Australia's PMV-L. Second Pass funding was provided in September 2015. Subsequently, LAND 121 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 1: 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 1.
- Stage 2: Low Rate Initial Production. Includes the production of 100 vehicles and 100 trailers, plus 6 test vehicles and 4 trailers based on an approved production baseline; the conduct of a Production Reliability Assessment Test, and final acceptance testing and evaluation activities.
- Stage 3: Full Rate Production. The production of the remaining vehicles and trailers based on the approved Full Rate Production baseline, and the achievement of IMR and FMR. **This stage will also include the uplift of the 100 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 result in significant savings to the Commonwealth.

Uniqueness

LAND 121 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 - Integral Computing System (ICS); and
- Utilise a modular armour system to enable enhanced protection based on mission specific roles.

Major Risks and Issues

The Project has identified 14 currently 'high' rated risks (pre-mitigation rating) during 2017-18 financial year. This is managed to nine 'high' rated risks post risk mitigation actions. The 14 'high' rated risks have been consolidated into the following four broader descriptions, as described in section 5.1:

- **The impact on schedule and performance if the PMV-L fails to successfully complete the Reliability Program (RDT and PRAT);**
- **Delays in the provision of technical and logistic support data impacting on providing a fully developed support system;**

- **Delays in C4I system development due to the developmental nature of the PMV-L C4I system and misalignment of other Defence C4I programs; and**
- **Production delays due to vehicle reliability and quality issues, which may impact on project milestones.**

Other Current Sub-Projects

LAND 121 is a multi-phased program providing the ADF with current-generation high-capability field vehicles, modules and trailers. Other LAND 121 projects are:

- LAND 121 Phase 3A – This project has delivered 2,146 lightweight (4x4) and light (6x6) Mercedes-Benz G-Wagons and 1,799 matching Haulmark trailers, replacing approximately two thirds of the current Land Rover 4x4 and 6x6 vehicle fleets. The new G-Wagons will be used primarily for tactical training, but will also be available to support humanitarian assistance or disaster relief operations, and to help secure Australia's coastline. **This project was closed on 3 October 2017.**
- LAND 121 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.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
May 08	Original Approved	1.8		
Nov 09	Real 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 18	Exchange Variation		6.6	
Jun 18	**Total Budget**		1,952.0	
	Project Expenditure			
Prior to Jul 17	Contract Expenditure – Thales Australia (Prime Contract)	(181.5)		
	Contract Expenditure – Thales Australia prototyping activities (MSA Stage 1 and Stage 2 Contract)	(58.7)		6
	Other Contract Payments/Internal Expenses	(32.6)		7
			(272.8)	
FY to Jun 18	Contract Expenditure – Thales Australia (Prime Contract)	(179.6)		
	Other Contract Payments/Internal Expenses	(10.7)		8
			(190.3)	
Jun 18	**Total Expenditure**		(463.1)	4
Jun 18	**Remaining Budget**		1,488.9	

Notes	
1	This amount reflects funding approval at First Pass Approval.
2	This amount reflects approval to undertake MSA Stage 1 prototyping.
3	This amount reflects funding approval at Interim Pass for MSA Stage 2 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 LAND 121 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 3) and the contracts are now closed.
7	Expenses comprise of: MAV prototyping activities ($17.7m); Project administrative costs ($4.6m); External Service Providers ($4.0m); **costs related to testing / trials ($2.4m);** Legal costs ($2.1m) and US JLTV Program ($1.8m).
8	Expenses comprise of: **Non-Prime contracts ($4.9m);** External Service Providers ($4.1m); Costs related to testing/trials ($1.3m); **and** Project administrative costs **($0.5m)**

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Defence's Explanation of Material Movements
222.8	203.0	198.8	PBS – PAES: The variation is primarily due to an additional reliability trial conducted in August 2017 that has resulted in some linked project milestones and payments being deferred to 2018-19. PAES – Final Plan: The variation is primarily due to contract milestone payments delayed to the following financial year.
Variance $m	(19.8)	(4.2)	Total Variance ($m): (24.0)
Variance %	(8.9)	(2.1)	Total Variance (%): (10.8)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
		(8.4)	Australian Industry	As at 30 June 2018, financial year 2017-18 expenditure was confirmed as $190.4m against the forecast expenditure of $198.8m. Variance is due to re-phasing of C4I deliverables into Financial Year 2018-19 ($6.7m), delays in Test and Evaluation activities ($2.1m); and rescheduling of Interim Logistic Support arrangements ($1.7m). Procurement of planned Government Furnished Equipment requirements totalling $1.7m has partially offset this variance.
			Foreign Industry	
			Early Processes	
			Defence Processes	
			Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
198.8	190.4	(8.4)	**Total Variance**	
		(4.2)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at Signature $m	Price at 30 Jun 18 $m	Type (Price Basis)	Form of Contract	Notes
Thales Australia	Jul 10	9.0	58.7	Firm	ASDEFCON	2, 3
Thales Australia	Oct 15	1,328.5	1,475.1	Fixed	ASDEFCON	1, 2, 4

Notes

1	Price variation from Contract Signature is due to approved Contract Change Proposals, predominantly to progress the development and integration of ICS.
2	Contract value as at 30 June 2018 is based on actual expenditure to 30 June 2018 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 2 option.
4	The contract has been re-evaluated as being a 'fixed' price because the contract value is 'fixed', less price escalation.

Contractor	Quantities as at Signature	Quantities as at 30 Jun 18	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	1

Major equipment received and quantities to 30 Jun 18

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 1 (Engineering and Manufacturing Development) of the LAND 121 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 2. 20 vehicles and 20 trailers from the Low Rate Initial Production quantities have been accepted by the Commonwealth as at 30 June 18.

Notes

1	The 16 test vehicles and 9 test trailers for development and testing activities are in addition to the 1100 PMV-L and 1058 trailers.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System/Platform Variant	Original Planned	Current Planned	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	Support System	Jun 17	Jun 18	Aug 18	14	4

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 CoA approval of ICS DDR 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 1 (Engineering and Manufacturing Development) has been 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 1.
4	The variance of SSDDR of 14 months is due to the LRIP baseline not being ready for review until CDR exit in October 2017 and the contractor failed to meet the entry criteria in SSDDR Checklist.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned	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
Maintenance Evaluation	PMV-L, Trailer and ICS	Oct 17	Jan 18	Jun 18	8	5
Acceptance Verification and Validation (AV&V)	PMV-L, Trailer and ICS	Jun 18	Jan 19	Feb 19	8	6, 7
Production Readiness Acceptance Test (PRAT)	PMV-L and Trailer	Jun 18	Jan 19	Mar 19	9	7
Low Rate Initial Production (LRIP) Acceptance Last Batch	PMV-L, Trailer and ICS	Jun 18	Jan 19	Jan 19	7	6, 7
Full Rate Production (FRP) Acceptance Last Batch	PMV-L, Trailer and ICS	Oct 20	May 21	May 21	7	6, 7

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	The Reliability Demonstration Test (RDT) was introduced as a Contract Change to confirm that failures identified during the Reliability Growth Trial had been rectified before entering into the Production Readiness Acceptance Test. The RDT will prove that the implemented solutions for Critical Failure and Effective Function Failure described in the Reliability Remediation Plan have been resolved to the Commonwealth's satisfaction. The 9 month delay in completing RDT is due to the delay in remediating the outstanding reliability issues.
4	As part of the extension of Stage 1 (Engineering and Manufacturing Development), DT&E has also been extended to facilitate further development testing and to mitigate against the Acceptance Verification and Validation (AV&V) activities required under Stage 2 (Low Rate Initial Production).
5	The approval of AVR for the Maintenance Evaluation was delayed by 7 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. The IETP has now been updated in accordance with the requirements of the Contract, which has subsequently enabled approval of the AVR.

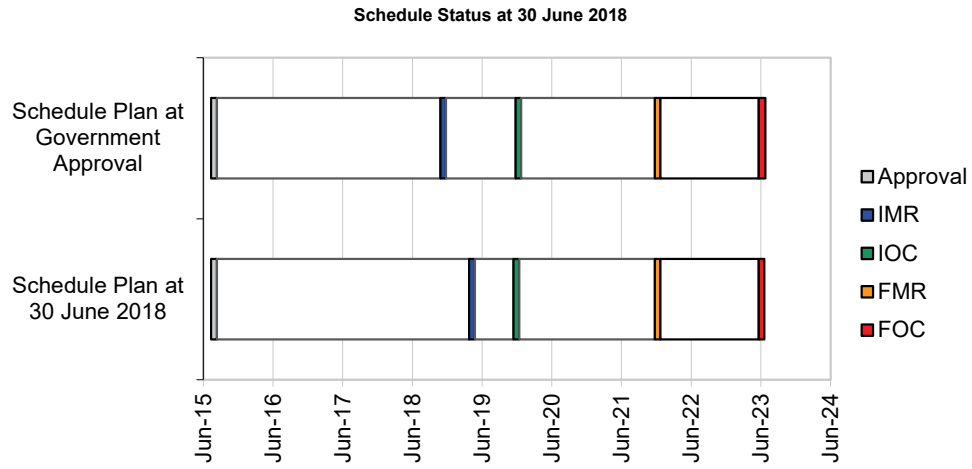
6	**AV&V has been delayed by 7 months due to the requirement to extend reliability testing, which impacted on the date that the LRIP vehicle build state was established between the Commonwealth and Thales. This delay in the establishment of the vehicle build state then impacted on vehicle availability to conduct AV&V activities.**
7	As part of the extension of Stage 1 (Engineering and Manufacturing Development), the start dates of some Stage 2 (Low Rate Initial Production) and Stage 3 (Full Rate Production) activities have also been delayed. The project office is working closely with the stakeholders to adhere to the agreed schedule.

3.3 Progress Towards Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Dec 18	**May 19**	**5**	**1**
Initial Operational Capability (IOC)	Dec 19	Dec 19	0	
Final Materiel Release (FMR)	Dec 21	Dec 21	0	
Final Operational Capability (FOC)	Jun 23	Jun 23	0	

Notes

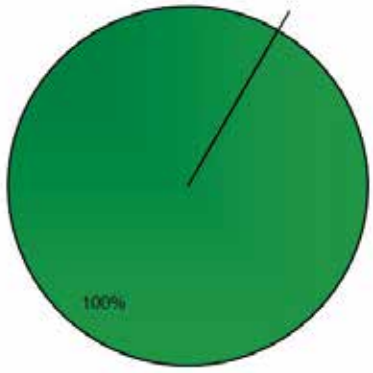
1	**IMR was deferred by five months to enable the conduct of an additional vehicle reliability demonstration activity (four months) and the extension of Introduction into Service Training and the associated increase in vehicle deliveries (one month).**



Section 4 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability 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:
N/A

Red:
N/A

Note

This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by Defence are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	IMR is a future dated milestone projected for **May 2019**. By IMR, the following will be delivered: • **108** PMV-L and **108** Trailers to be delivered in accordance with the Force Generation Cycle; and • Logistics support arrangements, **including Training and Maintenance Systems**.	Not yet achieved
Final Materiel Release (FMR)	FMR is a future dated milestone projected for December 2021. 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

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
N/A	N/A
Emergent Risks (risk not previously identified but has emerged during 2017-18)	
Description	Remedial Action
There is a chance that the PMV-L will fail to successfully complete the Reliability Program (RDT and PRAT), which will impact on schedule and performance. This could result from vehicle performance deficiencies or additional design modifications needing to be implemented into the developmental vehicle.	• **Close Commonwealth supervision and involvement during the Reliability Demonstration Test (RDT) and Production Readiness Acceptance Test (PRAT).** • **Commonwealth and Supplier senior leadership engagement to maintain oversight and direction of critical reliability issues, responding to help needed, and resource requirements / prioritisation.** • **Monitoring of the contracted Reliability Program.**
There is a chance that delays in the provision of technical and logistic support data will impact the development of the PMV-L training and support system. This could result in the vehicle being rolled-out to units without a fully developed support system.	• **Close Commonwealth oversight and support for the development and provision of the associated through life support contract deliverables.**
There is a chance that the developmental nature of the PMV-L C4I system and the misalignment of Defence C4I programs will delay the system development.	• **Continued collaboration across Defence C4I programs and suppliers to manage schedule misalignment and C4I capability integration.**
There is a chance that production delays from vehicle reliability and quality issues will impact on the achievement of the Initial Materiel Release and Initial Operating Capability milestones.	• **Commonwealth and supplier senior leadership engagement to maintain oversight and direction of critical reliability and quality issues, responding to help needed, and resource requirements / prioritisation.** • **Embed Commonwealth production and quality assurance representatives at the production line.** • **Close engagement between the Project Office and Capability Manager to ensure the milestone requirements and capability delivery priorities are aligned.**

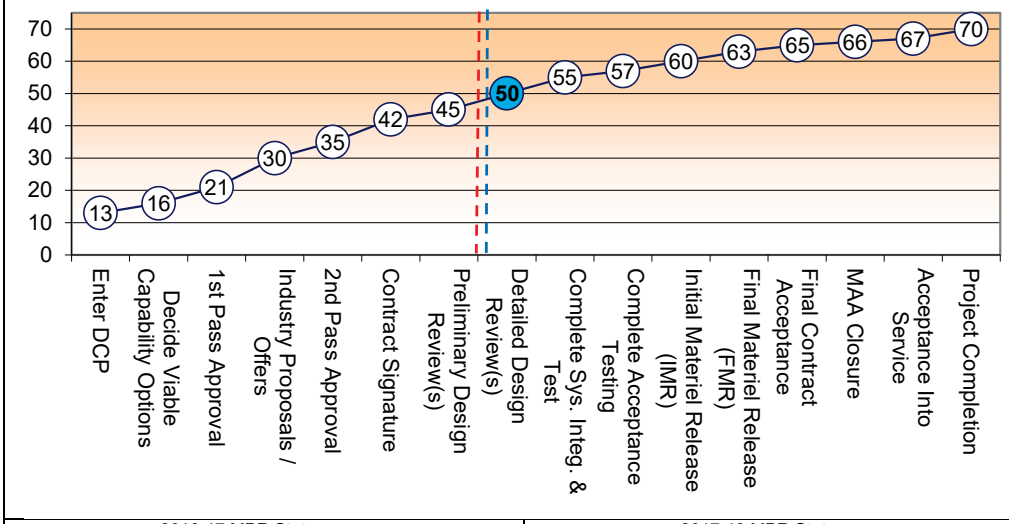
5.2 Major Project Issues

Description	Remedial Action
During RGT, the performance of the vehicles exceeded the number of critical failures allowable under the contract	Under a remediation activity agreed to by Defence, Thales Australia is to remediate these critical failures and **complete the RDT** in order to fulfil the contractual **reliability** requirements. It is **identified** that Thales Australia: • have reprioritised technical and assembly resourcing effort, • are progressing the remediation activity in concurrence to other scheduled activities, • **have further invested in engineering resources, and** • **are conducting the RDT to prove reliability fixes.** **This issue was retired on 14 September 2017 when RGT3 finished and the RDT commenced. A new risk was raised to address the issue with the delay in entering PRAT.**

Section 6 – Project Maturity

6.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	7	7	7	8	7	7	7	50
Detailed Design Review	Project Status	7	7	6	7	7	7	6	47
	Explanation	• **Requirement:** The baseline design of the developmental capability is yet to be finalised and endorsed by the Capability Manager. • Technical Understanding: The baseline design of the development capability is yet to be finalised, and verification & validation activities are still ongoing before full rate production of the vehicle commences. • Operations and Support: Completion of the baseline design will enable the Support System to be finalised. Detailed materiel and support requirements have been specified to a level necessary for procurement. The current user trial in Iraq and Afghanistan is informing the project of the support requirements for deployed vehicles.							



Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	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. Establishing a strong, open and trusting relationship with all stakeholders is a critical element for success, particularly in relation to understanding the technical requirements for a first-of-type capability, and in facilitating proactive risk management and contingency planning across the design, development, testing and introduction into service phases.	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.	Governance Contract Management First of Type Equipment

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.	
Tender Evaluation and Negotiation. During tender evaluation and negotiation, a number of external subject matter experts with vast Defence and commercial experience were engaged for advice and to provide independent assessments of technical, commercial and financial matters. Active participation of the externals in the lead up and during negotiations considerably improved the projects understanding and approach towards commercial, industry and programmatic issues.	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; and • specialist staff such as engineers.	Resourcing Contract Management
Establishment of a Strategic Relationship Board. The project initiated a Strategic Relationship Board consisting of senior Defence and Thales Australia executives to monitor progress, evaluate performance and risks within the parameters of contractual obligations.	Contract Management
External Recommendations. In the lead up to Second Pass, the project reviewed a number of independent reports undertaken in other vehicle projects to gain an understanding of the commercial, contractual, governance and procedural considerations to be incorporated into the contract. This exercise benefited the project significantly when considering risks, engaging stakeholders and during negotiations.	Contract Management Governance
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**

Section 8 – Project Line Management

8.1 Project Line Management in 2017-18

Position	Name
Division Head	MAJGEN David Coghlan
Branch Head	Ms Sarah Myers
Project Director	COL John McLean **(Oct 16 – Dec 17)** **LTCOL Dave Hughes (Acting Dec 17 – Jan 18)** **COL John-Paul Ouvrier (Jan 18 – current)**