

## **APPENDICES**

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## **APPENDIX A: DEFENCE COOPERATION PROGRAM**

The Defence Cooperation Program (DCP) has made a significant contribution to Australia's international defence engagement since the 1960s. The program:

- promotes the capacity of partners;
- improves Australia's capacity to work with partners in response to common security challenges; and
- builds strong people-to-people links with regional militaries at the tactical, operational and strategic levels.

The DCP supports Australia's strategic interests. In line with those interests, the DCP-priority countries and regions include Papua New Guinea, Indonesia, Timor-Leste, the South West Pacific, South-east Asia, Pakistan and the Middle East. The objective is to maximise Australia's security through developing close and enduring links with partners that support their capacity to protect their sovereignty, work effectively with the Australian Defence Force and contribute to regional security.

To achieve its objectives, the DCP suite of activities includes education courses, training, personnel exchanges, capacity building, military secondments, strategic dialogues, visits, subject matter expert exchanges, infrastructure support, and exercises and operations. These activities focus on enhancing the ADF's operational familiarity with different environments and on building partner capacity in humanitarian assistance and disaster relief, peacekeeping, counter-terrorism, maritime security, and military governance and professionalism.

The Australian Defence Force conducts exercises with other militaries in order to build partner capacity and enhance Australia's capacity to work with partners in response to regional security contingencies. These exercises are conducted in the air, land and maritime domains and take place both in Australia and across the region. Exercising together promotes interoperability and builds familiarity between our armed forces and those of our regional military partners.

The DCP supports the provision of education and training positions in Australia for international military personnel. Junior and senior officers from regional countries undertake short-and long-term courses at Australian military and civilian educational institutions. This training builds military professionalism by equipping participants with the skills they will use throughout their military careers. International military personnel also return home having developed a better understanding of Australia and having built networks with counterparts in the Australian Defence Force. These people-to-people links are further maintained through military alumni associations.

Australia maintains regular defence talks with regional countries in order to exchange views on regional security issues and to discuss defence cooperation priorities. The DCP also supports a program of visits by senior defence representatives to and from Australia. Through these visits, Australia gains an improved understanding of regional militaries and the strategic outlook of neighbouring countries.

Through capacity-building activities Defence seeks to develop the institutional and governance frameworks of regional defence organisations as well as the capabilities of their security forces. The DCP achieves these objectives through Australian Defence Force mobile training teams, support for logistics and infrastructure development, and the posting of Defence personnel as advisers to regional defence and security organisations. Professional and capable militaries are

better able to operate with the Australian Defence Force and to contribute to regional security and stability.

A key element of the DCP, and the centrepiece of Australia's defence engagement in the South Pacific, is the Pacific Patrol Boat Program, through which Australia has provided 22 Patrol Boats (with associated personnel and technical assistance) to 12 countries. The Program engages Pacific navies and police maritime wings and is designed to help Pacific island countries improve their ability to independently police their maritime zones. Under the follow-on Pacific Maritime Security Program, Australia is replacing the fleet with new steel-hulled vessels. In July 2015 and following a tender process, Austal Ships Pty Ltd has been selected to construct up to 21 replacement patrol vessels in Australia, for gifting to Pacific nations from 2018.

**Table 61: Defence Cooperation Program budget 2017-18**

	2015-16 Actual \$'000	2016-17 Budget Estimate \$'000	2016-17 Estimated Actual \$'000	2017-18 Budget Estimate \$'000
Papua New Guinea	38,942	40,788	40,239	41,808
South Pacific Region <sup>[1]</sup>	42,156	38,876	39,628	55,714
South-East Asia	15,977	19,334	18,925	21,380
Other regional activities <sup>[2]</sup>	6,523	7,830	5,534	8,196
Defence International Training Centre <sup>[3]</sup>	4,231	4,599	4,575	4,625
<b>Total<sup>[4]</sup></b>	<b>107,829</b>	<b>111,427</b>	<b>108,901</b>	<b>131,722</b>

**Notes**

1. The Defence White Paper has allocated additional funds for Aerial surveillance commencing in 2017-18.
2. Ukraine has been included as a Defence Cooperation Country from 2016-17.
3. The Defence International Training Centre (DITC) provides training in Australia to the defence forces of South-East Asia and South Pacific nations and to other selected overseas personnel. The DITC is managed by VCDF Group.
4. Includes funding from the Defence White Paper.

**Table 62: South Pacific Region budget 2017-18**

	2015-16 Actual \$'000	2016-17 Budget Estimate \$'000	2016-17 Estimated Actual \$'000	2017-18 Budget Estimate \$'000
Timor Leste	4,955	5,829	4,381	5,975
Vanuatu	424	807	740	858
Solomon Islands	792	871	537	954
Tonga <sup>[1]</sup>	4,656	3,042	2,165	2,700
Samoa	105	232	139	238
Cook Islands	269	182	197	276
Republic of the Marshall Islands	117	396	366	406
Federated States of Micronesia	80	122	202	207
Fiji <sup>[2]</sup>	1,169	2,700	2,254	8,487
Tuvalu	197	348	345	350
Kiribati	417	395	291	427
Palau	418	614	456	629
DCP Scheduled Support	4,325	4,102	3,894	5,389
Pacific Patrol Boat Program <sup>[3]</sup>	24,232	19,236	23,660	28,818
<b>Total</b>	<b>42,156</b>	<b>38,876</b>	<b>39,628</b>	<b>55,714</b>

**Notes**

1. The decreased budget for Tonga reflects completion of the Tongan Landing Craft acquisition in 2015-16.
2. Budget estimate reflects reinstatement of Defence relationship with Fiji, including the Fijian Patrol boat refit in 2017-18.
3. Budget estimate increase reflects additional Defence White Paper funding for the Pacific Maritime Security Program.

**Table 63: South-East Asia region budget 2017-18**

	2015-16 Actual \$'000	2016-17 Budget Estimate \$'000	2016-17 Estimated Actual \$'000	2017-18 Budget Estimate \$'000
Singapore <sup>[1]</sup>	58			
Philippines	2,803	3,142	3,241	3,285
Thailand	2,733	3,034	2,933	3,182
Malaysia	3,646	4,250	3,429	4,426
Indonesia	3,362	4,290	5,238	5,462
Vietnam	1,995	2,552	2,322	2,636
Cambodia and Laos	1,242	1,458	1,322	1,664
Brunei	42	320	124	328
Myanmar	96	288	317	398
<b>Total</b>	<b>15,977</b>	<b>19,334</b>	<b>18,925</b>	<b>21,380</b>

**Note**

1. Singapore is considered part of Defence Engagement from 2016-17 onwards.

## APPENDIX B: INTEGRATED INVESTMENT PROGRAM

The Integrated Investment Program is the means for Defence to deliver Government's agreed capability plan necessary to meet the strategic challenges outlined in the 2016 Defence White Paper.

Since the 2016-17 Portfolio Budget Statements and as part of the development of the budget, the Integrated Investment Program has been reviewed and updated to reflect the best available information in respect to project planning, delivery reality, cost estimates, phasing, and other important judgments and assumptions critical to the delivery of the capital investment portfolio. The review of the Integrated Investment Program ensures alignment between strategy, capability and resources is maintained in accordance with Government policy direction.

**Table 64: Integrated Investment Program projects in development for first pass approval consideration within the financial year 2017-18**

Project Number	Project Title
JP 2089 Phase 4	Tactical Information Exchange Domain (Data Links) - Upgrade
JP 9131 Phase 1	Defensive Cyberspace Operations (DCO) for the Deployed Environment
JP 2030 Phase 9	ADF Joint Command Support Environment - Geospatial and Intelligence Integration
JP 2085 Phase 2/3W	Explosive Ordnance Warstock - Munitions and Complex GW
JP 9320 Phase 1	Joint Force Level Electronic Warfare (JFLEW) - Geolocation
LAND 555 Phase 6	Land Force Level Electronic Warfare Signals Intelligence and Vehicles
SEA 5010 Phase 1	Active Electronically Scanned Array - Continuous Development Program
JP 2060 Phase 4	ADF Deployable Health Knowledge Management System
ICT 2273 Phase 1	Maritime Fleet Information Environment (FIE) Modernisation Program
ICT 2270 Phase 1	21st Century Security Vetting
SEA 1350 Phase 2	Navy Magnetic Treatment Facility
LAND 8140 Phase 2	Deployable Force Infrastructure
LAND 400 Phase 3	Land Combat Vehicle System
LAND 8120 Phase 1	Engineer Support Platforms Program
LAND 125 Phase 4	Integrated Soldier System
SEA 500 Phase 3	Navy Tactical Electronic Warfare Remediation
SEA 4000 Phase 6	AEGIS Capability Upgrade
SEA 2400 Phase 1	Hydrographic Data Collection Capability
AIR 7000 Phase 2C	Maritime Patrol Aircraft Replacement - P-8 Increment 3 (12 Aircraft)
ESTATE Z009P	Keswick Barracks Mid Term Refresh

**Table 65: Integrated Investment Program projects in development for second pass approval consideration within the financial year 2017-18**

Project Number	Project Title
LAND 9000 Phase ARHCAP	Armed Reconnaissance Helicopter Capability Assurance Program or replacement (ARH CAP)
LAND 4502 Phase 1	Additional Chinook Helicopters (facilities component)
AIR 555 Phase 1	AP-3C (EW) Replacement
AIR 2025 Phase 6	Jindalee Operational Radar Network (JORN)
LAND 1771 Phase 1	Geospatial Support System for Land Force
JP 9340 Phase 1	Integrated Broadcast Service - Interactive radios for AWD,LHD, Northroc, Eastroc, MHQ
JP 2064 Phase 3 E2	Geospatial Information, Infrastructure and Services (Evolution 2)
JP 9711 Phase 1	Core Simulation Capability
SEA 3035 Phase 1	Navy Training Pipeline Simulation Requirements
ICT 2284 Phase 1	Enterprise Information Management Acquisition
ICT 2203 Phase 1	Mobility and Digitisation
ICT 2216 Phase 1	Case Management Systems
ICT 2221 Phase 1	Multinational Information Systems (MNIS)
ICT 2201 Phase 1	Enterprise Service Orientated Architecture (SOA)
ICT 2047	JP 2047 Phase 3 Terrestrial Communications RCI
LAND 17 Phase 1C.2	Future Artillery Ammunition
LAND 8115 Phase 1	Mortar Ammunition Replacement
LAND 121 Phase 5B	Overlander - Medium and Heavy Tactical Training Vehicles
LAND 154 Phase 2	Joint Counter Improvised Explosive Device Capability
LAND 400 Phase 2	Mounted Combat Reconnaissance Capability
SEA 1180 Phase 1	Offshore Patrol Vessel
SEA 5000 Phase 1	Future Frigate (Design and Construction)
AIR 7000 Phase 1B	Multi-mission Unmanned Aircraft System
SEA 1439 Phase 6	Collins Sonar Capability Assurance
SEA 1354 Phase 1	Submarine Escape Rescue & Abandonmt Systems
SEA 1397 Phase 5B	Nulka Missile Decoy Enhancements
AIR 6000 Phase 3	Weapons and Countermeasures for Air Combat Capability
AIR 6013 Phase 1	Automatic Dependent Surveillance - Broadcast capability for Hawk Lead-in Fighter
AIR 3023 Phase 1	Enhanced Maritime Strike for the Air Combat Capability
ESTATE N2238	Facilities to Support Naval Operations in the North
ESTATE J0109P	Larrakeyah Barracks Redevelopment, Darwin (include Norforce)
ESTATE C8923	Point Wilson Explosive Ordnance Storage & Distribution
ESTATE P0007	Airfield Capital Works
ESTATE N2232	HMAS Watson Redevelopment
ESTATE N2241	Navy Guided Weapon Sustainment System (NGWSS) Remediation & Augmentation of Missile Testing & Maint Facilities
ESTATE D9541	DSTO-E Secure Training and Conference Facilities and DSTO-E Restricted Corporate Information Systems Centre
ESTATE J0105	Joint Health Command (JHC) Redevelopments (Puckapunyal, Duntroon, Watsonia, Darwin, Enoggera, Albury/Wodonga, Campbell, Larrakeyah Barracks)

**Table 66: Integrated Investment Program Projects in Development for Other Approval Consideration within the financial year 2017-18**

Project Number	Project Title
INV 1	Single Innovation Fund
SEA 5000 Phase 1	Future Frigate (Update to Government)

### APPENDIX C: TOP 30 ACQUISITION PROJECTS BY 2017-18 FORECAST EXPENDITURE

Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan)

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Air Domain</b>					
New Air Combat Capability	AIR 6000 Phase 2A/B	16,003	1,544	1,148	<p>The project is approved to acquire 72 F-35A aircraft and supporting elements to form four squadrons; three squadrons for operational and one squadron for training. Prime Contractor: Lockheed Martin is contracted to the United States Government to develop and produce F-35A Lighting II (Joint Strike Fighter) aircraft. Australia is procuring the aircraft through a government-to-government agreement.</p> <p>Major activities during 2017-18 will include: progressing the production of Australia's next eight F-35A aircraft, including delivery of four aircraft; commencing the procurement of a further eight F-35A aircraft; continue maturing the development of a sustainment model for Australian based support; commencing detailed planning and support for the ferry of the first two Australian F-35A aircraft to RAAF Williamtown in 2018; and Australian pilots and maintainers will continue to be trained in the USA, while construction of training facility at RAAF Williamtown, NSW continues.</p>
Maritime Patrol and Response Aircraft System	AIR 7000 Phase 2	5,261	2,686	853	<p>This project is acquiring the materiel elements of the Maritime Patrol and Response Aircraft weapon system including 12 aircraft, a full suite of training systems, three Mobile Tactical Operations Centres and a Through Life Support system as partial replacement of the AP-3C Orion aircraft.</p> <p>During 2017-18 the project will take delivery of another four aircraft, bringing the total deliveries to seven, and the aircrew training device suite. Major financial requirements in 2017-18 relate to the delivery of aircraft, aircrew and maintenance training devices, an Operational Load Management System, Air-to-Air Refuelling clearance activities, spares and transition training.</p>
Future Naval Aviation Combat System (FNACS)	AIR 9000 Phase 8	3,468	2,028	294	<p>The project has delivered all 24 Seahawk Romeo aircraft, with the final delivery to Australia occurring in September 2016. Six minor Australian-led modifications are being progressively embodied in the aircraft. Construction of the Maritime Helicopter Support Company maintenance facility in Nowra was completed and opened in September 2016, with the first helicopters being inducted into the facility for scheduled deeper maintenance activities.</p> <p>The Seahawk Romeo capability is operated from HMAS <i>Albatross</i> in Nowra and is currently supporting four embarked flights on Navy ships and will continue to grow to a mature state of eight embarked flights over the next two years.</p>



Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Air Domain (continued)</b>					
Pilot Training System	AIR 5428 Phase 1	1,196	136	239	This project will establish a new Pilot Training System for the Australian Defence Force, replace existing training aircraft, and acquire synthetic training systems, an enhanced curriculum and training media. During 2017-18, 10 training aircraft and four flight training simulators will be delivered. Installation of an associated learning environment will commence at RAAF Base Pearce, WA, and one will be completed at RAAF Base East Sale, VIC, enabling RAAF to validate training material.
AEW&C Interoperability Compliance Upgrade	AIR 5077 Phase 5A	1,138	344	226	This project will deliver inter-operability compliance upgrades to the E-7A Wedgetail Airborne Early Warning and Control aircraft and its associated support systems. During 2017-18 the project will progress the design and development of mission computing and Identification Friend or Foe upgrades on two aircraft. The project will also develop design options for additional interoperability upgrades for future project approval consideration by Government.
Growler Airborne Electronic Attack Capability	AIR 5349 Phase 3	3,393	2,125	225	This project will deliver an Airborne Electronic Attack Capability based on the EA-18G Growler platform, including an ALQ-99 Tactical Jamming System, anti-radiation captive training missiles, additional air-to-air missiles, simulators and other training devices. Aircrew and maintenance training will also be delivered. All aircraft have now been delivered to RAAF. The project will continue to progress delivery of a Mobile Threat Training Emitter System for electronic warfare training at ranges west of Amberley in Queensland and at Delamere in the Northern Territory, plus air-to-air and anti-radiation weapons for raise-train-sustain activities over the period 2017- 2022.
Additional Multi-Role Tanker Transport Aircraft	AIR 7403 Phase 3	853	451	132	This project will acquire two additional KC-30A Multi Role Tanker Transport aircraft to increase the existing fleet from five to seven aircraft. During 2017-18 the project will deliver the first aircraft with the second aircraft scheduled to complete its conversion. The second aircraft will undergo further modification to include an enhanced interior and secure communications suite known as Government Transport and Communications capability. Delivery of spares and support equipment are also expected during this period.

**Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)**

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Air Domain (continued)</b>					
Multi-Role Helicopter (MRH)	AIR 9000 Phase 2	3,732	3,054	119	<p>Project AIR 9000 Phase 2, 4 and 6 is acquiring a total of 47 Multi Role Helicopters (MRH90) for the Army and the Navy: Phase 2 acquires 12 MRH90 for an additional Army air mobile squadron; Phase 4 replaces the Black Hawk fleet; and Phase 6 replaces Navy Sea Kings.</p> <p>During 2017-18, the project is scheduled to accept all final production aircraft, bringing the total number of aircraft to 47; the final aircraft will be delivered in July 2017. The retrofit program, which upgraded the first 13 production aircraft to the mature contracted configuration, delivered the final aircraft four months ahead of schedule in April 2016. The Project focus will continue on the provision of the capabilities required to enable achievement of the remaining operational milestones in the lead-up to Final Operational Capability in 2021.</p>
Helicopter Aircrew Training System	AIR 9000 Phase 7	474	199	90	<p>This project will provide a new joint training system to prepare Navy and the Army aircrew for conversion to operational helicopter types. The new Joint Helicopter School will be located in Nowra, New South Wales. The project will replace the current training systems based on Squirrel and Kiowa helicopters.</p> <p>The acquisition of 15 EC135 helicopters, associated synthetic training systems, courseware, training services and a new training facility at HMAS <i>Albatross</i>, New South Wales, will enable the training of up to 130 military aircrew candidates per year. The first 14 aircraft have been delivered to Australia.</p> <p>During 2017-18 students will commence training in early 2018, with full operational capability planned to be achieved by mid 2019.</p>
Battlefield Airlift - Caribou Replacement	AIR 8000 Phase 2	1,406	751	78	<p>This project is acquiring 10 C-27J 'Spartan' Joint Cargo aircraft and three years interim support to replace the retired Caribou. To date, six aircraft have been accepted by the Commonwealth; five aircraft have been delivered to RAAF Base Richmond, NSW, and one aircraft located in the United States to support aircrew and maintainer training.</p> <p>During 2017-18 the project will support the establishment of a Through Life Support contract, complete the balance of aircraft deliveries and continue delivery of associated logistics support. Planning for the longer term training solution and conduct of the Operational Test and Evaluation to support Final Operational Capability will also be undertaken. Work will also continue on preparations for the aircraft Structural Substantiation Program that involves a full scale aircraft fatigue test.</p>
Bridging Air Combat Capability	AIR 5349 Phase 1	3,358	2,828	40	<p>This project is acquiring 24 US Navy common F/A-18F Block II Super Hornet aircraft, weapons, facilities and support systems. To date, all aircraft have been delivered and are currently maintained at RAAF Base Amberley, QLD. The project has some outstanding acquisition activities that will see the project close during 2018-19.</p> <p>The focus for 2017-18 will be the final integration of weapons, continued identification of additional Super Hornet support requirements associated with the revised Planned Withdrawal Date.</p>

Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Joint Domain</b>					
Battlespace Communications System (Land)	JP 2072 Phase 2B	930	180	178	<p>This project will provide the Army with a deployable, wideband communications backbone by replacing the existing Battlefield Telecommunications Network with an enhanced deployable network capability. A complementary support system will also be established. Contracts were signed with Boeing Defence Australia on 3 September 2015 for both acquisition and support of the capability. Boeing completed the Detailed Design Review in late 2016 and has demonstrated prototypes of key elements of the capability.</p> <p>During 2017-18, the project will prepare for the first deliveries in late 2017.</p>
ADF Identification Friend or Foe and Automatic Dependent Surveillance - Broadcast	AIR 90 Phase 1	417	65	79	<p>This project is upgrading the legacy platforms that have military Mode 4 Identification Friend or Foe (IFF) and civilian Modes A/C Secondary Surveillance Radar systems to Mode 5 IFF and Mode S respectively. A new complementary technology, Automatic Dependent Surveillance - Broadcast will also be implemented. The project's scope includes eight platforms: KC-30A multi-role tanker transport aircraft, MRH90 Taipan helicopters, Tiger armed reconnaissance helicopters, HMAS <i>Choules</i>, HMAS <i>Sirius</i>, Huon class minehunters, RBS-70 short-range anti-aircraft missile systems, and the Tactical Air Defence Radar System.</p> <p>During 2017-18 the key activities for include: first of type installation for Huon class minehunters; Initial Operational Capability for RBS-70; and Detailed Design Review for HMAS <i>Sirius</i>, Tiger, Taipan and KC-30A.</p>
Civil Military Air Traffic System (CMATS)	AIR 5431 Phase 3	731	64	66	<p>This project will provide the Defence element of a single national Civil Military Air Traffic Management System being progressed jointly under the OneSKY Australia program with Airservices Australia. Airservices is the lead agency for OneSKY. The joint project will provide operational benefits and efficiencies for military and civil airspace users, and reduced acquisition and support costs for Airservices and Defence. The Defence scope element includes 12 Air Traffic Management automation systems, communications infrastructure, training systems and Defence's share of a Joint Software Support Facility. Advance Work Supply Arrangements have been active with the preferred tenderer, Thales Australia, since February 2015 to allow critical path activities to be progressed ahead of the main contracts.</p> <p>During 2017-18 negotiations with the preferred tenderer to bring the capability, cost and schedule of this complex project within the parameters agreed by Government at Second Pass will continue.</p>

**Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)**

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Joint Domain (continued)</b>					
Woomera Test Range Remediation	JP 3024 Phase 1	238	101	60	<p>This project will replace the aging instrumentation at the Woomera Test Range which is used to conduct Defence Test and Evaluation and Research and Experimentation activities. The Woomera Test Range consists of the Woomera Prohibited Area and the Woomera Restricted Airspace, and occupies an area of approximately 124,000 square kilometres in remote South Australia. The Woomera Test Range will continue to be operated by Air Force with operational maintenance and deeper level maintenance to be conducted by the support contractor. The selected contractor, acting as a Prime System Integrator, will supply the Mission and Support systems and the first five years of support. Rolling wave extensions to the Support Contract beyond the first five years of support will be awarded subject to satisfactory performance.</p> <p>During 2017-18 the key activities are the Detailed Design Review and the delivery of the new and upgraded facilities at Woomera to support the Capital Equipment project.</p>
Enhanced Land Electronic Warfare Systems	DEF 500 Phase 1	178	57	57	<p>This project will acquire new and upgrade existing Electronic Warfare capabilities for Army. These capabilities are: Electronic Warfare systems that will be integrated into Bushmaster Protected Mobility Vehicles; manpack Electronic Warfare systems; communication systems to support the networking and coordination of Electronic Warfare operators and assets; systems to allow exploitation of emerging digital devices; and dedicated training systems that will support the training of Electronic Warfare operators.</p> <p>The project will conduct a coordinated acquisition strategy encompassing all of the five capability lines to ensure “whole of systems” delivery. Preference has been given to off-the-shelf products that are technically mature and systems that have interface commonality with existing Army Electronic Warfare capabilities to ensure compatibility and interoperability. The Initial Operational Capability is scheduled for 2017-18 and the Full Operational Capability is scheduled for 2019-20.</p> <p>During 2017-18 the project will: deliver all 12 of the Protected Mobility Vehicles in the Electronic Warfare configuration; deliver the Manpack Electronic Warfare system and commence delivery of the dedicated training systems; and deliver the associated communication systems for networking the capabilities.</p>
Nu ka Missile Decoy Enhancements	SEA 1397 Phase 5C	176	99	42	<p>This project is a collaborative development with the United States Navy for the next generation of the Nulka product line.</p> <p>In 2017-18 the program is undertaking trial activities with the United States.</p>
Improved Tactical Electronic Support Capability for ANZAC Class	SEA 1448 Phase 4A	279	177	42	<p>This project will provide the Anzac class frigates with a replacement tactical Electronic Support mission system for improved passive situational awareness and early threat warning. The project includes the provision of Electronic Support mission system emulators for training and a shore-based support segment for Electronic Support mission system reprogramming. The project successfully completed first of class system installation and at sea trials in August 2015.</p> <p>During 2017-18, delivery and installation of the Eighth and final production system for the Anzac class will occur.</p>

Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Land Domain</b>					
Medium and Heavy Capability (MHC), Field Vehicles, Modules and Trailers (FVMT)	LAND 121 Phase 3B	3,363	988	710	<p>This project will deliver approximately 2,700 medium and heavy vehicles in an array of variants, including recovery trucks, integrated load handling systems and flatbeds, in both protected and unprotected configurations. To complement the acquisition, approximately 3,858 modules and flatracks will be supplied and approximately 1,700 trailers will also be acquired to enhance the payload carrying capacity. The prime contractors include: Medium/Heavy Vehicle Capability: Rheinmetall MAN Military Vehicles Australia; Medium/Heavy Trailer Capability: Haulmark Trailers (Australia); Bushmaster vehicles: Thales Australia; Additional G Wagons: Mercedes-Benz Australia-Pacific.</p> <p>During 2017-18, the project will continue to deliver initial capability to Army's 7 Brigade and 1 Brigade, RAAF units, and other supporting organisations within Defence.</p>
Project Overlander - Protected Mobility Vehicle-Light	LAND 121 Phase 4	1,951	303	223	<p>This project will deliver 1,100 Protected Mobility Vehicles – Light ('Hawkei') for command, liaison, utility and reconnaissance roles. In addition, approximately 1058 companion trailers will be acquired to enhance payload carrying capacity. The Hawkei balances requirements for survivability, mobility, payload, communications, useability and sustainability; providing a high level of protection against blast and ballistic threats, with the mobility to enable operations in high risk areas. The prime contractor is Thales Australia.</p> <p>During 2017-18, the project will be conducting capability requirements testing, including reliability trials, on pilot vehicles and trailers, prior to finalising contractor designs for the build of low rate initial production vehicles.</p>
Soldier Enhancement Version 2 - Lethality	LAND 125 Phase 3C	459	142	131	<p>This project will deliver the Enhanced F88 rifle and a suite of Surveillance and Target Acquisition ancillaries including an enhanced day sight and thermal and image intensifier sights. The Prime Contractor is Thales Australia for the Enhanced F88 rifle and Grenade Launcher Attachment.</p> <p>A contract for the production of 30,000 Enhanced F88 rifles, 2,277 Grenade Launcher Attachments, repair parts and training aids was signed in July 2015. Deliveries commenced in August 2015 and continue in accordance with the schedule.</p> <p>Contracts for the surveillance and target acquisition ancillaries were signed through seven standing offer deeds with a range of Australian and overseas suppliers by November 2015 and deliveries commenced in February 2016.</p> <p>The delivery of rifles and ancillary devices to North Queensland has been completed and deliveries to South Queensland are scheduled for the second half of 2017.</p>

**Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)**

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Land Domain (continued)</b>					
Night Fighting Equipment Replacement	LAND 53 Phase 1BR	433	34	72	<p>This project is replacing land-based night vision equipment and laser aiming devices that attach to specified ADF weapons. The equipment is being progressively delivered over the period 2017 to 2023. The prime contractor is L3 Oceania (acquisition and support).</p> <p>In 2017, the first delivery of equipment will be to Army's 1st Battalion, The Royal Australian Regiment in Townsville and the School of Infantry in Singleton for Operational Testing and Evaluation of the night fighting equipment, accessories and the support system.</p> <p>Final Materiel Release is scheduled for March 2023, with Final Operational Capability to be declared in September 2023.</p>
Enhanced Gap Crossing Capability	LAND 155 Phase 1	210	119	66	<p>This project will provide land forces with the ability to cross a range of wet and dry gaps in support of combat operations and will comprise of combat bridging that will remain in place for a limited time and can then be redeployed forward to maintain support to the manoeuvre force. Prime Contractor: This project is managed using a Managing Contractor model: Jacobs Pty Ltd. The major bridging suppliers are: Floating Bridge System (FBS) General Dynamics European Land Systems – Germany; Bridge Erection Propulsion Boats – Life of Type Extension: Birdon Pty Ltd; Modular Bridging System: WFEL Ltd; Rapid Emplacement Bridges: WFEL Ltd; and Footbridge: Israeli Military Industries Systems.</p> <p>During 2017-18, this project will complete production of the Rapid Emplacement Bridge and Modular Bridge System and commence Operational Test and Evaluation of these bridges and the Floating Bridge System and the Foot Bridge.</p>

Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Maritime Domain</b>					
Air Warfare Destroyer Program	SEA 4000 Phase 3	9,090	7,219	683	<p>The Air Warfare Destroyer (AWD) program will deliver three Hobart class AWDs and support system to the Navy under an alliance-based contracting arrangement between Australian Submarine Corporation (ASC) AWD Shipbuilder Pty Ltd, Raytheon Australia Pty Ltd and the Government, represented by Defence. The prime contractor is The AWD Alliance.</p> <p>During 2017-18, this project is expected to achieve a number of key milestones including delivery of Ship 01, <i>Hobart</i>, to the Royal Australian Navy, the completion of sea trials for Ship 02, <i>Brisbane</i>, and the launch and official naming of Ship 03, to be named <i>Sydney</i>.</p>
Future Submarine Design and Construction	SEA 1000 Phase 1B	935	127	319	<p>This project will deliver Australia's Future Submarine capability.</p> <p>During 2017-18, the Project will continue planning and mobilising to deliver a rolling acquisition program for the delivery of 12 regionally superior Future Submarines including the sovereign capability to operate and sustain them. The mobilisation activities will involve the establishment of a Resident Project Team in France to oversee the submarine design being undertaken by the DCNS and Lockheed Martin Australia and commence work on the infrastructure for construction of the Future Submarines in Adelaide.</p>
Maritime Operational Support Capability	SEA 1654 Phase 3	995	92	270	<p>This project will replace the Royal Australian Navy's existing afloat support capability, HMA <i>Ships Success</i> and <i>Sirius</i>, with a single class of replacement replenishment ships to sustain deployed maritime forces.</p> <p>On 5 May 2016 the Commonwealth entered into contracts with Navantia S. A. for the acquisition and initial five-year sustainment of the two replacement replenishment ships.</p> <p>During 2017-18, this project will continue the build of the replacement replenishment ships and is expected to achieve a number of key milestones including Keel Laying of Ship 1 and various construction progress milestones as well as undertaking a number of mandated system reviews.</p>

**Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)**

Domain/ Project Name	Project Number/ Phase	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m	Top 30 Major Project Descriptions
<b>Maritime Domain (continued)</b>					
Future Frigate - Design and Construction	SEA 5000 Phase 1	335	146	133	<p>The Future Frigate Program will replace Australia's existing fleet of eight ANZAC Class frigates with a new fleet of nine anti-submarine warfare frigates. SEA 5000 Phase 1 (Future Frigate) will introduce into service the next generation of naval surface combatants.</p> <p>The three short-listed designers, BAE Systems, Fincantieri and Navantia were contracted in August 2016 to participate in the next phase of the Competitive Evaluation Process (CEP). A Request for Tender (RFT) was released to the three designers, on 31 March 2017.</p> <p>In 2017-18, SEA 5000 will work through the next phase of the Competitive Evaluation Process which will include a Risk Reduction Design Study and the Request for Tender process to identify the optimum designer, builder and commercial model in the lead up to Gate 2 Government approval in 2018. Two options have been short listed for the combat management system. SEA 5000 will undertake further detailed studies and decide on a combat management system by the end of 2017.</p>
Collins Sonar Capability Assurance Program	SEA 1439 Phase 6	123	50	67	<p>This project will address obsolescence and capability deficiencies in the Collins class sonar system and establish an ongoing capability assurance program.</p> <p>The project achieved Government first pass approval in March 2016. First pass approval provided funding for risk reduction activities and for development of a fully costed proposal for Gate Two consideration. Funding was also provided for an on-shore acoustic trainer and for the design and production of key components needed to enable the first installation to commence as soon as Government Gate 2 approval is achieved.</p> <p>The project is scheduled for Gate Two consideration by Government in 2017-2018.</p>
Amphibious Ships (LHD)	JP 2048 Phase 4A/B	3,092	2,793	49	<p>This project has delivered two Canberra Class Landing Helicopter Dock (LHD) vessels and associated LHD support system comprising configuration information, training, spares, documentation, and test equipment.</p> <p>LHD01 was delivered to the Navy in October 2014 and commissioned as HMAS Canberra in November 2014. LHD02 was delivered in October 2015 and commissioned as HMAS Adelaide in December 2015. Final Materiel Release (FMR) is currently planned for 2017, noting however the dependency on the resolution of outstanding defects and deficiencies.</p>
Collins Communications and Electronic Warfare Programme	SEA 1439 Phase 5B2	251	109	41	<p>This project will modernise the communications and electronic warfare systems in Collins class submarines. The project is to be delivered in two stages; Stage 1 will specifically address communications and electronic warfare equipment obsolescence, while Stage 2 will deliver additional wideband satellite communications capabilities. Stage 1 was approved by Government in June 2015 and Stage 2 was approved in March 2017.</p> <p>Installation of the first replacement communications system commenced in mid 2016, with installation of Stage 2 commencing in mid 2018.</p>



**Table 67: Top 30 Projects by 2017-18 Forecast Expenditure (Gross Plan) (Continued)**

Domain/ Project Name	Approved Project Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	Budget Estimate 2017-18 \$m
<b>Total Top 30 Projects (Gross Plan)</b>	<b>64,468</b>	<b>29,009</b>	<b>6,731</b>
Other Approved Project Gross Plans	43,698	35,498	1,153
<b>Total Approved Projects (Gross Plan)</b>	<b>108,166</b>	<b>64,507</b>	<b>7,884</b>
Management Margin: Slippage			-1,305
<b>Payments Required for the Approved Programme</b>			<b>6,579</b>

**Note**

1. One classified project has not been included in this table due to its classified nature.

## APPENDIX D: TOP 30 SUSTAINMENT PRODUCTS BY 2017-18 FORECAST EXPENDITURE

**Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18**

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Air Domain</b>			
<p>"The Air Domain provides through-life support to Air Force fixed wing aircraft, Army and Navy rotary wing aircraft, Unmanned Aerial Systems, and a number of advanced flight simulators and ground support equipment fleets. Key platforms include the F/A-18A/B Hornet and F/A-18F Super Hornet, Hawk 127, E-7A Wedgetail (Airborne Early Warning and Control), AP-3C Orion, C-17A Globemaster III, KC-30A (Multi-Role Tanker/Transport), C-130J Hercules, PC-9 , Special Purpose Aircraft, B300, MRH-90, Tiger, Chinook, and MH-60R.</p> <p>The high priority sustainment tasks remain the support of operational deployments, including F/A-18A Hornet, F/A-18F Super Hornet, E-7A Wedgetail and KC-30A employed by Air Force in Operation Okra, strategic lift (C-17A Globemaster III, C-130J Hercules) supporting Middle East operations, embarked Seahawk helicopters supporting Operation Manitou, and Humanitarian Assistance/Disaster Relief events.</p> <p>Key challenges for the Air Domain are supporting ageing platforms (AP-3C Orion, F/A-18A/B Hornet, PC-9, Black Hawk, Kiowa and Squirrel) whilst concurrently introducing new/ replacement capabilities (P8 Poseidon, F/A-18G Growler, PC21 Pilot Training System, MH-60R and Chinook CH4F), and improving performance of the MRH-90 and Tiger systems."</p>			
F/A-18F Super Hornet Weapon System	CAF21	266	<p>Twenty-four F/A-18F Block II Super Hornet aircraft are operated by 82 Wing in support of air combat capability requirements. The Super Hornet achieved Final Operational Capability in December 2012. Raise, Train Sustainment support and operational targets continue to be met.</p> <p>During 2017-18, efforts will focus on the transition of the Growler capability into the Air Combat &amp; Electronic Attack sustainment system. Through 2017-18, the Super Hornet spiral capability upgrades will continue, which include upgrades to aircraft hardware, software and the addition of new weapons.</p>
E-7A Airborne Early Warning and Control Capability System	CAF20	212	<p>The Airborne Early Warning and Control weapon system comprises six aircraft, associated simulators and software laboratories. Boeing Defence Australia as the prime contracting partner together with Boeing Defence Systems, Northrop Grumman Systems Corporation and British Aerospace Engineering Systems Australia provide a performance based support arrangement for engineering, training, supply support and maintenance in order to support the capability.</p> <p>During 2017-18 the focus will continue to be on the annual performance activities with Boeing Defence Australia and the industry partners which will reform elements of the commercial arrangements to better align with contemporary contracting arrangements. The reforms will provide more efficient working arrangements as well as reviewing various support and supply activities.</p>

Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Air Domain (Continued)</b>			
F/A-18 A/B Classic Hornet Weapon System	CAF02	189	<p>This product provides sustainment of the F/A-18 Classic Hornet fleet and associated support materiel by the Tactical Fighter System Program Office.</p> <p>During 2017-18, focus will continue on supporting the fleet to the Planned Withdrawal Date (PWD) of December 2021, managing ageing aircraft effects, and assuring operational capability effectiveness 'to the last day'. This includes finalising the Life of Type Assessment and Extension Program to ensure the platform can safely attain PWD. Increased priority will also be given to the planning the strategic disposal of the fleet and associated equipment in the PWD drawdown.</p>
Multi Role Helicopter Weapon System	CA48	172	<p>Project AIR 9000 Phases 2, 4 &amp; 6 will deliver 47 MRH-90 helicopters; as well as mission, support and training systems. The final aircraft will be delivered in mid 2017. In-Service Support is provided under a prime contract with Airbus Group Australia Pacific (formerly Australian Aerospace).</p> <p>The MRH-90 fleet is located at: 5th Aviation Regiment in Townsville, Queensland; Army Aviation Training Centre in Oakey, Queensland; 808 Squadron in Nowra, New South Wales; and Airbus Group Australia Pacific's deep maintenance facility in Brisbane.</p> <p>Improving aircraft availability continues to be a key focus for 2017-18, with work to optimise MRH-90 scheduled maintenance arrangements continuing along with optimisation of operational maintenance support arrangements.</p>
Armed Reconnaissance Helicopter System	CA12	137	<p>Project AIR87 Phase 2 has delivered all 22 Tiger armed reconnaissance helicopters. In-service support is provided under a prime contract with Airbus Group Australia Pacific (formerly Australian Aerospace). Final Operational Capability for Tiger was declared in 2016 with some caveats.</p> <p>During 2017-18, activity will continue to focus on engineering developments to rectify Final Operational Capability caveats and the development of the Tiger's amphibious capability for operations in the new Canberra Class Landing Helicopter Dock ships. Work continues on the improvement of aircraft availability and reliability. Refinements to the through life support arrangements have been undertaken to reduce overall cost of ownership for Defence.</p>
C130J-30 Weapon System	CAF06	129	<p>The C-130J fleet consists of 12 aircraft and one Level 5 full flight mission simulator. The C-130J is supported by two prime performance based contracts. Airbus Group Australia Pacific provides intermediate and deeper level maintenance, logistics and engineering support for the aircraft, and StandardAero provides support for the propulsions system.</p> <p>During 2017-18, the focus will be on continuing fleet embodiment of Large Aircraft Infrared Countermeasures, Link 16 (military tactical data exchange network) and fitment of crashworthy seating; delivery of the new loadmaster and maintainer training devices; procurement of replacement High Frequency radios; progression of the AE2100D3 propulsions system compressor replacement program; and implementing Smart C-130J Through Life Support contract reform.</p>

**Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)**

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Air Domain (Continued)</b>			
Lead-In Fighter Hawk Weapon System	CAF03	126	<p>The Lead-in Fighter fleet consists of 33 Hawk 127 aircraft and associated ground and support systems. BAE Systems Australia Limited provides logistics support for the Hawk 127 fleet under an In-Service Support contract.</p> <p>During 2017-18 the focus will be on: ensuring that BAE Systems continues to provide Operational and Deeper Maintenance support to meet RAAF capability outcomes, and working with BAE Systems and RAAF stakeholders to upgrade the Hawk fleet to meet AIR 5438 Phase 1A – Lead-In-Fighter Capability Assurance Program operational capability milestones with minimal impact to RAAF Raise/Train/Sustain activities.</p>
C-17 Heavy Air Lift Weapons system	CAF19	115	<p>The C-17A weapon system comprises eight aircraft and associated training systems. Sustainment is predominately undertaken through a range of Foreign Military Sales arrangements with the US Air Force.</p> <p>During 2017-18, the planned sustainment reform will be seeking to implement a direct contract with Australian industry negotiated in 2016-17 and enhancement of asset management principles to better support the C-17A weapon system.</p>
P3C Orion Weapons System	CAF04	105	<p>The AP-3C Orion maritime intelligence, surveillance, response and electronic warfare weapon system comprises of up to thirteen aircraft, simulators and ground based systems. The weapons system is supported primarily by industry partners: Airbus Group Australia Pacific (AGAP), Raytheon Australia, BAE Systems Australia (BAES), General Dynamics Canada (GDC) and Lockheed Martin (LM) for engineering, maintenance and supply support.</p> <p>During 2017-2018, the focus will be to continue to maintain agreed availability performance while simultaneously planning and supporting the gradual withdrawal of the aircraft from service, including reduction of excess-to-need spares holdings.</p>
KC-30A Weapon System	CAF22	72	<p>The KC-30A weapon system comprises five aircraft and related training system. All five aircraft are fully mission capable for air-to-air refuelling from pods and boom and airlift logistics support.</p> <p>Early in 2017-18 a sixth aircraft will be brought into service following modification with preparation commencing for delivery for a seventh aircraft in 2019. The focus will remain on achieving cost effective life of type management through enterprise reform and application of asset management principles. KC-30 will continue supporting military operations including the receiver clearances program for conducting air to air refuelling.</p>
MH-60R Seahawk Romeo Weapon System	CN35	56	<p>Project AIR 9000 Phase 8 has delivered all 24 Seahawk Romeo aircraft, with the final delivery to Australia occurring in September 2016. Six minor Australian-led modifications are being progressively embodied in the aircraft. Construction of the Maritime Helicopter Support Company maintenance facility in Nowra was completed and opened in September 2016, with the first helicopters being inducted into the facility for scheduled deeper maintenance activities.</p> <p>The Seahawk Romeo capability is operated from HMAS <i>Albatross</i> in Nowra and is currently supporting four embarked flights on Navy ships and will continue to grow to a mature state of eight embarked flights over the next two years.</p>

Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Joint Domain</b>			
<p>"Joint Systems Division provides through-life support to a range of command and control systems, communications, satellites and tactical interoperability systems, airspace surveillance and control systems and electronic warfare systems. The Division also provides and supports all of Defence's guided and non-guided weapons.</p> <p>Key challenges in 2017-18 include balancing the delivery of the required sustainment outcomes against growth in demand and increased obsolescence with the effective use of available resources.</p> <p>Key objectives for sustainment during 2017-18 include the ongoing support to operations with a focus on Air Task Group guided weapons, counter improvised explosive device measures and secure communications into and across the Middle East Region. The transition of new capabilities from acquisition into sustainment and the management of a number of pressing obsolescence issues with legacy systems are also key objectives."</p>			
Army Munitions and Army Guided Weapons	CA59 and CA60	178	<p>The ADF's inventory consists of both non guided and guided explosive ordnance utilised by Army including: small arms ammunition; cannon ammunition; artillery; tank; rockets and associated warheads; FGM-148 Javelin Missiles, a light infantry surveillance and anti armour guided weapon system; RBS70 Bolide Missiles, a ground based air defence system and; AGM-114 Hellfire Missiles (laser guided air to air missile) for use on the Armed Reconnaissance Helicopter.</p> <p>During 2017-18, the high priority sustainment tasks will continue to provide engineering and technical support to units deployed on operations while satisfying the broader Raise Train and Sustain demands for explosive ordnance.</p>
Navy Munitions and Navy Guided Weapons	CN37 and CN38	149	<p>The ADF's inventory consists of Navigational Outfits, Medium and Large Calibre Gunnery, Pyrotechnics and Cartridge Actuated Devices, Countermeasures, Force Protection and demolition products utilised by Navy. Navy's Guided Weapons are categorised into four main areas: Missiles, Minewarfare, Heavy Weight Torpedoes and Lightweight Torpedoes. Navy's Guided Weapons Explosive Ordnance activities also includes sustainment of Guided Weapons used by Army and Air Force where Navy is the lead service.</p> <p>During 2017-18, the high priority sustainment tasks will continue to provide explosive ordnance that is safe and suitable for service to deployed units in support of operations, satisfying the broader Navy Raise Train and Sustain demands for explosive ordnance, continue to remediate Navy Missile Maintenance Facilities and planning and conducting weapons engineering, maintenance and technical activities in support of the management of Navy explosive ordnance inventory.</p>
Air Force Munitions and Air Force Guided Weapons	CAF32 and CAF33	116	<p>The ADF's inventory consists of guided missiles; bomb bodies, fuses and guided bomb components; and inert and training bombs employed by Air Force platforms. The inventory also includes countermeasures, impulse cartridges, cannon ammunition, safety pyrotechnics, and emergency egress power and cartridge actuated devices employed by Air Force, Navy and Army aviation platforms.</p> <p>During 2017-18, the high priority sustainment tasks will continue to provide engineering and technical support to units deployed on operations while satisfying the broader Raise Train and Sustain demands for explosive ordnance.</p>

**Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)**

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Joint Domain (Continued)</b>			
Wide Area Surveillance	CAF13	91	<p>The Wide Area Surveillance Capability consists of three Over-The-Horizon-Radars based in Longreach, Queensland; Laverton, Western Australia; and Alice Springs, Northern Territory and is known as the Jindalee Operational Radar Network. The radars are currently maintained by Lockheed Martin Australia Electronic Systems and BAE Systems Australia. The Wide Area Surveillance product schedule now also includes Overhead Persistent Infrared and C-Band Radar space surveillance capabilities.</p> <p>During 2017-18, the Over-The-Horizon-Radar sustainment effort will continue to progress a High Power Amplifier concept demonstrator as well as obsolescence and maintenance activities to ensure the capability remains effective until the radar upgrade is conducted under Project AIR 2025 Phase 6. Sustainment effort will also support phase-in activities to transition sustainment support from two prime contractors to one prime under Project AIR2025 Phase 6.</p>
Battlespace Communications Systems	CA31	57	<p>Battlespace Communications Systems continue to transition into the support of the next generation of digitised Battlespace communications equipment. These systems range from hand held digital radios to tactical and strategic communications networks.</p> <p>The 2017-18 focus will be on supporting Tactical Data Radios and vehicle communications systems while preparing to support the JP2072 Phase 2B Battlespace Telecommunications Network.</p>
Air Battlespace Management Systems	CAF14	55	<p>The Air Battlespace Management capability consists of the Vigilare command and control system, Mobile Control and Reporting Centre (MCRC) deployable command and control systems, Tactical Air Defence Radar Systems (TADRS) and simulators for provision of airspace surveillance and control services in the Australian region. Through life support is contracted directly to industry with Boeing Defence Australia supporting Vigilare, Lockheed Martin Australia Electronic Systems supporting TADRS and Daronmont Technologies supporting MCRC and simulators.</p> <p>The 2017-18 focus is targeted obsolescence management with a drive towards common product solutions. TADRS obsolescence management includes a Block Upgrade to the primary and secondary radar subsystems scheduled for completion by end of 2018 which will align the Australian systems with the supported global product baseline. Vigilare data sharing will be improved through IP Migration and Server Virtualisation activities which will allow a smaller footprint instance of Vigilare to be installed within No 1 Remote Sensor Unit. MCRC obsolescence and life-of-type management options have been developed with upgrades to the Communications and Operations Cabins along with Data Processing and Display harmonisation with Vigilare including server virtualisation scheduled to be delivered by end of 2019.</p>

Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Joint Domain (Continued)</b>			
Air Traffic Control (ATC) Capability	CAF12	54	<p>The Air Traffic Management (ATM) system includes fixed and deployable sensors, data processing, displays, navigation aids, command, control and communications (C3) systems and interfaces that enable 44 Wing to deliver fixed Air Base Air Traffic Services, deployable battlefield airspace coordination, mobile Air Traffic Services and Air Navigation Services for ADF operations and national tasking. It is a highly integrated and complex system, which is operated and supported across multiple organisational, functional, technical, and geographical boundaries.</p> <p>The 2017-18 focus is targeting obsolescence management in order to support the capability to planned withdrawal dates and delivery of several Major and Minor capability replacement projects for Air Navigation systems. The highest risk capability remains the Australian Defence Air Traffic System (ADATS), in particular the deployable system and automation system, to be replaced under AIR 5431 Phases 1 and 3 respectively. Significant engineering and logistical solutions will continue through 2017-18 and beyond in order to mitigate these risks. 2017-18 will also see the consolidation of some 15 support arrangements down to eight and pursuit of increased outsourcing consistent with First Principles and CASG reform recommendations.</p>
Command and Control Capability Systems	CAF16	54	<p>Command and Control Capability Systems provide software and system hardware support Air Operations, Mission Planning, Situational Awareness, Intelligence and Targeting, and Network and Enabling systems.</p> <p>The 2017-18 focus is the replacement of the Theatre Battle Management Core System which will soon be unsupported by the United States, establishment of intent and configuration of the broader command and control environment, establishment of system vulnerability assessment and remediation, and supporting the rapidly increasing user base for off-board mission planning systems introduced by major capability programs.</p>

**Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)**

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Land Domain</b>			
<p>Land Domain is responsible for the sustainment of the following land materiel, managed in conjunction with the Navy, Army, Air Force and Joint Health Command as the Capability Managers:</p> <ul style="list-style-type: none"> <li>• armoured fighting, combat support and engineering vehicles</li> <li>• logistic service support and commercial vehicles</li> <li>• radar, surveillance, electrical and simulation systems</li> <li>• small arms and weapon systems</li> <li>• medical, and dental equipment, health systems and combat rations</li> <li>• ADF clothing and personal combat equipment.</li> </ul> <p>Key challenges for 2017-18 are to continue to provide reliable and cost effective sustainment options to meet ADF outcomes while the division explores opportunities for further organisational and business reform.</p> <p>Key objectives for sustainment in 2017-18 include:</p> <ul style="list-style-type: none"> <li>• meeting the support requirements of forces on operations.</li> <li>• delivering the agreed level of support to the ADF within budget.</li> <li>• continue current sustainment reform initiatives and combine with new initiatives to align with the First Principles Review, CASG Reform and Smart Buyer intent.</li> <li>• working with the CASG Centres of Expertise to develop and deliver effective training and professionalisation of sustainment staff to optimise skills that support the delivery of sustainment outcomes.</li> <li>• release of the request for tender to industry for the Land Systems Division Commodity Reform activity.</li> <li>• improved management and maintenance of vehicle fleets through use of Vehicle Health and Usage Monitoring Systems in selected fleets to better manage maintenance and fleet rotation.</li> </ul>			
ADF Clothing	CA39	89	<p>ADF Clothing comprises approximately 21,000 line items of uniform, footwear and other items supplied by the textile, clothing and footwear industry.</p> <p>During 2017-18, the key activities will include:</p> <ul style="list-style-type: none"> <li>• provision of combat clothing to operations;</li> <li>• the continued manufacture and delivery of the Australian Multicam Camouflage Uniforms and the General Purpose Jackets to Army;</li> <li>• product development of functional and garment enhancements across both combat and the non-combat uniform suite for Navy, Army and Air Force; and</li> <li>• procurement to meet the ADF's clothing and footwear requirements for the ADF's raise, train and sustain activities.</li> </ul>



Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Land Domain (Continued)</b>			
Commercial Vehicle Fleet	CA19	78	<p>The Australian Defence Organisation's Commercial Vehicle Fleet comprises approximately 5,800 Defence owned Commercial vehicles and trailers. The fleet ranges from passenger sedans through to heavy rigid trucks, touring coaches and aviation refuelling vehicles. An additional 30 road-train systems are leased under the program.</p> <p>During 2017-18, approximately 1,000 passenger and light-medium commercial vehicles are scheduled to be replaced. A key priority is to replace Defence's ageing commercial vehicle fleet at Royal Malaysian Air Force Base – Butterworth. This program commenced in 2015–16 and will be completed in 2017–18. In 2017–18, the fleet will continue to focus on improving overall vehicle utilisation and rationalisation.</p>
<b>Maritime Domain</b>			
<p>The Maritime Domain sustainment concept is to support maritime capability through cost effective materiel design, maintenance engineering and logistic support to platforms, equipment and systems. The provision of these sustainment services is under a structure of System Program Offices that are collocated regionally with the Navy Forces and Groups by ship class, and that manage the delivery of services through a variety of outsourced commercial contracts.</p> <p>Maritime has transformed over recent years, through the delivery of new capability, improving business practices and continuing to deliver outcomes with a leaner workforce.</p> <p>The key challenge for sustainment during 2017-18 is the implementation of change to business areas to improve waterfront outcomes; effectiveness of configuration management, maintenance planning and execution; a shift to a governance focused business, and the creation of a managed workforce to support sustainable operations.</p>			
Collins class submarines	CN10	575	<p>The Collins Program objective is to sustain the Collins class submarine materiel capability (including the associated escape and rescue capability), minimise the logistic costs of ownership, and provide sustainable and cost effective design, engineering and logistics support for platform systems and combat systems, through agreements with industry partners including Australian Submarine Corporation (ASC) Pty Ltd, Raytheon Australia, Thales, BAE Systems, PMB and other providers. The Coles Report into the business of sustaining Australia's strategic Collins class submarine capability of November 2012 has been seminal in catalysing improved submarine availability since 2012, with the attainment of Coles' benchmark availability levels planned to be achieved by 2016-17.</p> <p>In collaboration with Navy and industry (and as recommended by Coles), Capability Acquisition and Sustainment Group (CASG) has established an enterprise approach to the Collins Program. The follow-up Coles Review 'Beyond Benchmark' released in October 2016, reported a remarkable improvement in the sustainment of the class.</p> <p>Goals for 2017-18 continue to be; preserve Program performance through sustained delivery of required capability at benchmark availability; maintain regional superiority through timely delivery of Collins capability upgrades; attain benchmark support system efficiency materiel cost of ownership by financial year 2022-23; and manage Collins submarines through to withdrawal cognisant of capability continuity and transition to a Future Submarine force.</p>

**Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)**

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Maritime Domain (Continued)</b>			
Anzac Class Frigate (FFH)	CN02	322	<p>The support objective is to maintain the materiel capability of the Anzac Class Frigates through the provision of materiel support and ongoing maintenance of the ships and associated equipment, systems and operator training facilities.</p> <p>During 2017-18, the focus will be to complete delivery of the Anti Ship Missile Defence Refit and Upgrade program for HMA Ships <i>Toowoomba</i> and <i>Stuart</i>; preparing for installation and integration of ANZAC Midlife Capability Assurance Programme (AMCAP) inclusive of Platform Systems Remediation, SEA 1442 Phase 4 Maritime Communications Modernisation Project, and SEA 1448 Phase 4B Anzac Air Search Radar Replacement which will commence in HMAS <i>Arunta</i> Q4 2017; and consolidating the five-year sustainment program agreement under the Warship Asset Management Agreement.</p>
Canberra Class Landing Helicopter Dock	CN34	106	<p>The scope of this product addresses the sustainment of two Canberra Class Landing Helicopter Dock (LHD) vessels, 12 LHD Landing Craft (LLC), and associated shore-based systems and facilities, as these are introduced into service.</p> <p>The support objective is to provide the materiel availability of the LHD capability to the Navy, by meeting seaworthiness, materiel confidence, and cost efficiency demands. This will enable the LHD to deliver integrated combat capabilities in amphibious warfare, humanitarian assistance, disaster relief, and sealift.</p> <p>During 2017-18, the continued focus will be acquiring the knowledge, data and Australian industry capacity to sustain the Canberra Class LHDs for the remainder of their operational life. Building on the initial operating period which has demonstrated the increase in capability enabled by the LHDs, whilst also providing a thorough understanding of the engineering and maintenance requirements, the Usage Upkeep Cycle will continue to be refined with commensurate improvements to the shore support. Separate dockings will be conducted to remediate several propulsion pod issues and conduct routine and non-routine servicing of several fragile ship systems.</p>
Adelaide Class Frigate	CN01	96	<p>The support objective is to maintain the materiel capability of the Adelaide Class Frigates through the provision of materiel support and ongoing maintenance of the ships and associated equipment, systems and operator training facilities.</p> <p>During 2017-18, the focus will be on completing the scheduled ship maintenance activities for HMA Ships <i>Newcastle</i>, and <i>Melbourne</i> and to finalise the disposal project for HMAS <i>Sydney</i> and commence disposal planning for HMAS <i>Darwin</i> (Planned Withdrawal Date 1 December 2017). Additionally, reviews of existing contracts will be commenced noting the planned withdrawal dates for <i>Newcastle</i> and <i>Melbourne</i>.</p>
Auxiliary Oiler Replenishment (AOR) HMAS <i>Success</i>	CN43	78	<p>The support objective is to maintain the materiel capability of a single SIRIUS Class Auxiliary Oiler (AO), HMAS <i>Sirius</i> and a single DURANCE Class Auxiliary Oiler Replenishment (AOR), HMAS <i>Success</i> through the provision of effective materiel support and ongoing maintenance of these vessels.</p> <p>During 2017-18, the focus will be the successful conduct of the next planned external maintenance activity for HMAS <i>Success</i> and on maximising the operational availability of both vessels.</p>

Table 68: Top 30 Sustainment Products by End of Financial Year Outcome 2017-18 (Continued)

Domain/Product Name	Product Serial	Budget Estimate 2017-18 \$m	Top 30 Product Descriptions
<b>Maritime Domain (Continued)</b>			
Armidale Class Patrol Boat	CN09	64	The support objective is to maintain the materiel capability of the Armidale Class Patrol Boats (ACPB) through the provision of effective materiel support and ongoing maintenance of the vessels, associated equipment and systems. 2017-18 will see the final ACPB complete its structural remediation program at Austal in Henderson, WA. A reorganised and more streamlined Patrol Boat System Program Office will be in place to support the operational availability of the ACPB vessels, which will be further enhanced by Thales as the new In-Service Support Contractor for the sustainment of the ACPB Fleet commencing 2017-18.
Hydrographic Support	CN46	63	The support objective is to maintain the materiel capability of the two LEEUWIN Class Hydrographic Ships (HS), four PALUMA Class Survey Motor Launches (SML), six Survey Motor Boats (SMB) embarked in the HS, two SMB used by the Royal Australian Navy Hydrographic School, the Antarctic Survey Vessel (ASV) used by the Deployable Geospatial Survey Team (DGST), three Tactical Portable Hydrographic Survey Systems (THSS), six Basic Portable Hydrographic Survey Systems (BPHSS), miscellaneous hydrographic survey equipment, meteorological information systems used by Mobile Meteorological Teams (MMTs), as well as the Laser Airborne Depth Sounder II (LADS) system and its host, the Dash 8-200 aircraft. The focus for 2017-18 is the continued reform of the System Program Office in order to meet and maintain availability targets.
Huon Class Mine Hunter Coastal	CN14	61	The support objective is to maintain the materiel capability of the Huon Class Mine Hunter Coastal vessels and associated training equipment through the provision of materiel support and ongoing maintenance of the in-service ships. 2017-18 will see the completion of the combat system upgrade on the remaining vessels, as well as focus is on sustainment obsolescence aspects leading up to the Service Life Extension project.
Cross Platform Items of Supply	CN49	57	The support objective is the sustainment of inventory materiel to support RAN Fleet Units and associated maritime capability. During 2017-18 the continued focus will be on sustainment of inventory requirements and the revision and implementation of long term contractual arrangements.
<b>Total - Top 30 Products</b>		<b>3,922</b>	
Other Approved Sustainment Product Estimates		1,395	
<b>Total Sustainment Product Funds Available</b>		<b>5,317</b>	
Support to Operations		378	
<b>Total Sustainment and Operations Funding</b>		<b>5,695</b>	

## **APPENDIX E: FACILITIES AND INFRASTRUCTURE PROGRAM**

The Facilities and Infrastructure Program component of the Integrated Investment Program comprises approved and yet to be approved major and medium capital facilities projects.

Major capital facilities projects are defined as having expenditure over \$15m (excluding GST) and are subject to Government approval and formal review by the Parliamentary Standing Committee on Public Works (PWC). Medium facilities projects have expenditure between \$2m and \$15m with projects over \$8m subject to Government approval. Projects valued between \$2m and \$15m are required to be notified to and agreed by the PWC but may not be formally reviewed by the Committee. Details of approved major and medium projects are provided in this Appendix.

The Facilities and Infrastructure Program is comprised of projects that support and sustain current and future capability requirements, other government initiatives, meet legislative obligations and provide engineering and infrastructure services and upgrades to existing facilities.

## Approved Major Facilities and Infrastructure Projects

Table 69 provides details on the expenditure to 30 June 2017 on Facilities and Infrastructure Projects and budget estimates for 2017-18. Descriptions for major projects are provided below the table.

**Table 69: Approved Major Facilities and Infrastructure Projects by State and Federal Electorate**

	State and Electorate	Total Estimated Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	2017-18 Budget Estimate \$m
<b>New Air Combat Capability (AIR 6000 NACC)<sup>(1)</sup></b>				
RAAF Williamtown	NSW - Paterson	-	470.4	254.4
RAAF Tindal	NT - Lingiari	-	59.0	187.7
<b>Total</b>		<b>1,477.0</b>	<b>529.4</b>	<b>442.1</b>
<b>Enhanced Land Force (ELF) Stage 2<sup>(1)</sup></b>				
Lone Pine Barracks	NSW - Hunter	-	115.8	-
Puckapunyal Training Area	VIC - McEwan	-	6.0	2.1
Simpson Barracks, Watsonia	VIC - Jagajaga	-	20.2	-
RAAF Amberley	QLD - Blair	-	9.6	-
Lavarack Barracks, Townsville	QLD - Herbert	-	66.1	-
Townsville Training Area	QLD - Kennedy	-	3.9	-
Greenbank Training Area	QLD - Rankin	-	120.7	-
Gallipoli Barracks, Enoggera	QLD - Ryan	-	808.0	-
Wide Bay Training Area	QLD - Wide Bay	-	92.0	-
Kokoda Barracks, Canungra	QLD - Wright	-	71.8	-
Cultana Training Area	SA - Grey	-	4.7	47.0
RAAF Edinburgh	SA - Wakefield	-	34.5	-
Majura Field Training Area	ACT - Fraser	-	22.4	-
<b>Total</b>		<b>1,457.8</b>	<b>1,375.8</b>	<b>49.1</b>
<b>Maritime Patrol Aircraft Replacement (AIR 7000 Phase 2B)<sup>(1)</sup></b>				
RAAF Edinburgh	SA - Wakefield	-	91.7	126.0
RAAF Townsville	QLD - Herbert	-	-	-
RAAF Pearce	WA - Pearce	-	-	-
RAAF Darwin	NT - Solomon	-	-	4.4
<b>Total</b>		<b>707.9</b>	<b>91.7</b>	<b>152.6</b>
<b>Air Traffic Control Complex Infrastructure Project and Fixed Base Defence Air Traffic Management and Control System (AIR 5431 Phases 2 and 3)<sup>(1)</sup></b>				
RAAF Amberley	QLD - Blair	-	-	18.6
Army Aviation Centre Oakey	QLD - Groom	-	-	25.4
RAAF Townsville	QLD - Herbert	-	-	28.8
RAAF Richmond	NSW - Greenway	-	-	19.7
HMAS Albatross	NSW - Gilmore	-	-	4.7
RAAF Williamtown	NSW - Paterson	-	-	27.0
RAAF East Sale	VIC - Gippsland	-	-	0.7
RAAF Woomera	SA - Grey	-	-	7.8
RAAF Edinburgh	SA - Wakefield	-	-	1.7
RAAF Gingin	WA - Pearce	-	-	6.8
RAAF Pearce	WA - Pearce	-	-	25.4
RAAF Darwin	NT - Solomon	-	-	27.5
RAAF Tindal	NT - Lingiari	-	-	28.7
<b>Total</b>		<b>409.9</b>	<b>36.7</b>	<b>222.8</b>

**Table 69: Approved Major Facilities and Infrastructure Projects by State and Federal Electorate (Continued)**

	State and Electorate	Total Estimated Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	2017-18 Budget Estimate \$m
<b>Battlefield Airlifter Facilities (AIR 8000 Phase 2)</b>				
RAAF Amberley	QLD - Blair	370.4	45.8	120.0
<b>HMAS Stirling Redevelopment Stage 3A</b>				
HMAS Stirling, Rockingham	WA - Brand	366.8	12.6	70.4
<b>Growler Airborne Electronic Attack Capability Facilities (AIR 5349 Phase 3)</b>				
RAAF Amberley	QLD - Blair	-	55.3	55.0
Delamere Weapons Range	NT - Lingiari	-	13.4	49.0
<b>Total</b>		<b>348.6</b>	<b>68.7</b>	<b>104.0</b>
<b>Pilot Training System Facilities (AIR 5428 Phase 1)<sup>(1)</sup></b>				
RAAF East Sale	VIC - Gippsland	-	59.2	101.6
RAAF Pearce	WA - Pearce	-	18.7	66.4
RAAF Edinburgh	SA - Wakefield	-	-	-
RAAF Williamtown	NSW - Paterson	-	-	-
<b>Total</b>		<b>329.8</b>	<b>77.9</b>	<b>168.0</b>
<b>RAAF Base Williamtown Redevelopment Stage 2</b>				
RAAF Williamtown	NSW - Paterson	274.0	44.2	103.1
<b>LAND 121 Stage 2 (Phases 3 and 4)<sup>(1)</sup></b>				
Lavarack Barracks, Townsville	QLD - Herbert	-	-	50.0
Gallipoli Barracks, Enoggera	QLD - Ryan	-	-	31.0
RAAF Williamtown	NSW - Paterson	-	-	8.2
Holsworthy Barracks, Holsworthy	NSW - Hughes	-	-	1.3
Puckapunyal Training Area	VIC - McEwan	-	-	13.0
Campbell Barracks	WA - Curtin	-	-	4.4
RAAF Edinburgh	SA - Wakefield	-	-	6.1
Robertson Barracks	NT - Solomon	-	-	3.5
<b>Total</b>		<b>276.5</b>	<b>54.2</b>	<b>117.5</b>
<b>C-17 Maintenance Facility, Aircraft Apron and Associated Infrastructure (AIR 8000 Phase 3)</b>				
RAAF Amberley	QLD - Blair	219.4	-	100.0
<b>Campbell Barracks Redevelopment</b>				
Campbell Barracks	WA - Curtin	223.6	89.8	38.2
<b>HMAS Albatross Redevelopment Stage 3</b>				
HMAS Albatross	NSW - Gilmore	192.0	185.2	0.5
<b>Air 9000 Ph 8 Facilities for the Future Naval Aviation Combat System (FNACS) - MH-60R<sup>(1)</sup></b>				
HMAS Albatross, Nowra	NSW - Gilmore	-	178.8	0.4
HMAS Stirling, Rockingham	WA - Brand	-	7.2	-
Twofold Bay, Eden	NSW - Eden-Monaro	-	0.3	-
<b>Total</b>		<b>189.0</b>	<b>186.3</b>	<b>0.4</b>
<b>Defence Terrestrial Communications Network Facilities Upgrade (JP 2047 Phase 3)<sup>(2)</sup></b>				
National		131.1	70.7	32.8
<b>Airfield Capital Works (Curtin, Tindal and Townsville)<sup>(1)</sup></b>				
RAAF Townsville	QLD - Herbert	-	-	-
RAAF Curtin	WA - Durack	-	-	2.4
RAAF Tindal	NT - Lingiari	-	-	33.6
<b>Total</b>		<b>95.3</b>	<b>55.2</b>	<b>36.0</b>

**Table 69: Approved Major Facilities and Infrastructure Projects by State and Federal Electorate (Continued)**

	State and Electorate	Total Estimated Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	2017-18 Budget Estimate \$m
<b>Space Surveillance Telescope (JP 3029 Phase 2)</b>				
Harold E Holt, Exmouth	WA - Durack	79.0	11.0	27.5
<b>Delamere Range Facilities Redevelopment</b>				
Delamere Air Weapons Range	NT - Lingiari	74.4	11.5	35.3
<b>Woomera Range Remediation Facilities (JP3024 Phase 1)</b>				
Woomera	SA - Grey	48.6	0.0	29.6
<b>Land 17 Phase 1B/C</b>				
Gallipoli Barracks, Enoggera	QLD - Ryan	-	-	3.4
Lavarack Barracks	QLD - Herbert	-	-	6.5
Robertson Barracks	NT - Solomon	-	-	6.0
Puckapunyal Training Area	VIC - McEwan	-	-	6.5
Campbell Barracks	WA - Curtin	-	-	3.3
Holsworthy Barracks	NSW - Hughes	-	-	2.9
RAAF Williamtown	NSW - Paterson	-	-	3.0
Proof & Experimental Establishment - Port Wakefield	QLD - Wakefield	-	-	0.7
<b>Total</b>		<b>57.1</b>	<b>0.0</b>	<b>32.3</b>
<b>Facilities for Chinook Helicopter (AIR 9000 Phases 5B and 5C)</b>				
RAAF Townsville	QLD - Herbert	49.8	35.1	1.4
<b>REDFIN Infrastructure (JP 2097 Phase 1B)<sup>[1]</sup></b>				
Holsworthy Barracks	NSW - Hughes	-	-	3.6
Campbell Barracks	WA - Curtin	-	-	0.2
Defence Establishment Howard Springs	NT - Solomon	-	-	1.8
Lavarack Barracks	QLD - Herbert	-	-	0.0
<b>Total</b>		<b>50.5</b>	<b>36.5</b>	<b>5.6</b>
<b>Puckapunyal Military Area High Voltage Upgrade</b>				
Puckapunyal Training Area	VIC - McEwan	32.7	6.7	8.1
<b>Electronic Warfare Operational Support (JP500 Phase 2)</b>				
RAAF Edinburgh	SA - Wakefield	24.9	0.0	14.6
<b>Low Level Bridge Repair</b>				
Fleet Base West, Stirling	WA - Brand	12.8	12.9	0.1
<b>Centralised Processing Facilities and Infrastructure</b>				
National		12.9	1.6	5.5
<b>RAAF Base Amberley Sewerage Treatment Plant</b>				
RAAF Amberley	QLD - Blair	9.2	0.0	5.4
<b>Potable Water Supply Upgrade</b>				
RAAF Pearce	WA - Pearce	8.7	0.6	7.3
<b>Land 136 Ph 1 Land Force Mortar Replacement<sup>[1]</sup></b>				
Holsworthy Barracks	NSW - Hughes	-	-	0.2
Irw in Barracks	WA - Curtin	-	-	0.2
Robertson Barracks	NT - Solomon	-	-	0.2
<b>Total</b>		<b>4.5</b>	<b>0.2</b>	<b>0.6</b>

**Table 69: Approved Major Facilities and Infrastructure Projects by State and Federal Electorate (Continued)**

	State and Electorate	Total Estimated Expenditure \$m	Estimated Cumulative Expenditure to 30 June 2017 \$m	2017-18 Budget Estimate \$m
<b>Deployable Defence Air Traffic Management and Control Systems</b>				
RAAF Amberley	QLD - Blair	4.6	4.2	0.0
<b>Projects in or about to enter Defects Liability Period <sup>[3]</sup></b>				<b>7.8</b>
<b>Total</b>		<b>7,538.9</b>	<b>3,044.6</b>	<b>1,938.7</b>

**Notes**

1. These projects cross state and electoral boundaries. Estimated cumulative expenditure to 30 June 2017 and expenditure estimates for 2017-18 are provided in the table per location.
2. This project is delivering facilities at over 200 locations that cross state and electoral boundaries.
3. This amount represents the expenditure estimates for contract administration of four completed projects during their first year in-use.

**New South Wales**

**RAAF Base Williamtown Redevelopment Stage 2**

This project will sustain and improve the functionality and capability of RAAF Base Williamtown, NSW, including upgrades or replacement of critical ageing infrastructure to meet future requirements. The project is scheduled for completion by mid 2021.

**HMAS Albatross Redevelopment Stage 3**

This project will replace ageing and obsolete engineering services and infrastructure at HMAS Albatross. The project will also provide a combination of new and refurbished facilities to support operational and training outcomes as well as enabling functions. The project is scheduled for completion by mid 2017.

**Queensland**

**Battlefield Airlifter Facilities (AIR 8000 Phase 2)**

This project will provide facilities at RAAF Base Amberley, QLD to accommodate and support the operation of the new C-27J Battlefield Airlifter (BFA) aircraft. The project is scheduled for completion by early 2019.

**Facilities for Chinook Helicopter (AIR 9000 Phases 5B and 5C)**

This project will provide new and upgraded facilities to support the introduction into service of the new CH47 F Chinook Helicopter. The project will provide working accommodation, simulator facilities, aircraft hangars and workshops, storage facilities and supporting infrastructure for the Army's 5th Aviation Regiment at RAAF Base Townsville. The project is scheduled for completion by late 2017.

**C-17 Maintenance Facility, Aircraft Apron and Associated Infrastructure (AIR 8000 Phase 3)**

This project will provide a maintenance facility, working accommodation, an aircraft apron and associated facilities at RAAF Base Amberley. This project is scheduled for completion by late 2018.



#### Shoalwater Bay Training Area Vehicle Wash Point

This project will provide a vehicle wash point at the main entrance to the Shoalwater Bay Training Area. The project is scheduled for completion in mid 2018.

#### **Western Australia**

##### HMAS *Stirling* Redevelopment Stage 3A

This project will provide upgrades and refurbishment of existing critical shortfalls to infrastructure and facilities. The project is scheduled for completion by early 2020.

##### Campbell Barracks Redevelopment

This project will provide a new Headquarters for the Special Air Services Regiment, communications facilities, working accommodation, storage facilities and supporting site infrastructure at Campbell Barracks, WA. The project is scheduled for completion by late 2018.

##### Space Surveillance Telescope (JP 3029 Phase 2)

This project will provide facilities and infrastructure to support the operations of the Space Surveillance Telescope, which will enable ADF space surveillance capability, enhanced global surveillance capability, and an increased ability to track space debris. The project is scheduled for completion by late 2018.

#### **Northern Territory**

##### Delamere Range Facilities Redevelopment

This project will redevelop key range facilities and infrastructure to enable Growler and Mobile Threat Training Emitter Systems capability at Delamere Air Weapons Range, NT. The project is scheduled for completion by mid 2018.

#### **South Australia**

##### Woomera Range Remediation Facilities (AIR 3024 Phase 1)

The facilities Project will provide new and upgraded facilities and infrastructure that are capable of facilitating the operation of a new range safety and control system at Woomera, SA. The project is scheduled for completion in late 2018.

##### Electronic Warfare Operational Support Facilities (JP500 Phase 2A)

This project will provide facilities to support Joint Project 500 Phase 2A – Electronic Warfare Operational Support, at the Edinburgh Defence Precinct, SA. The project is scheduled for completion in mid 2018.

#### **Victoria**

##### Puckapunyal Military Area High Voltage Upgrade

The project will provide an essential upgrade to the High Voltage power supply and reticulation network at the Puckapunyal Military Area, Victoria. The Project is scheduled for completion in late 2017.

## Various Locations

### New Air Combat Capability (AIR 6000 NACC)

This project will provide new and upgraded facilities and infrastructure to support the introduction of the Joint Strike Fighter at RAAF Base Williamtown Newcastle, NSW, and RAAF Base Tindal, Katherine, NT with support facilities and infrastructure provided at Defence Establishment Myambat, NSW and seven Forward Operating Bases. The project is scheduled for completion by late 2022.

### Enhanced Land Force (ELF) Stage 2

This project will provide modern purpose-built facilities and supporting infrastructure for the 8th/9th Battalion the Royal Australian Regiment and supporting elements of the Army's 7th Brigade at Gallipoli Barracks in Enoggera, Brisbane. The project includes the construction of new and refurbished accommodation and training facilities, as well as common use facilities and site infrastructure upgrades at Enoggera and other Defence sites across four States and both mainland Territories.

Facilities at Townsville, Singleton, Duntroon and Watsonia will provide modern accommodation and supporting infrastructure for increased Army career training. In Sydney, at RAAF Bases Amberley and Edinburgh, and at nine other Defence Training Areas, new and refurbished facilities with site infrastructure upgrades will be provided for Army and joint enabling elements supporting the Enhanced Land Force capabilities.

All works are complete with the exception of works at the Puckapunyal Military Area and Mangalore, which are scheduled to be complete in late 2017, and Cultana Training Area which is scheduled for completion by late 2018.

### Maritime Patrol Aircraft Replacement (AIR 7000 Phase 2B)

This project will provide new and upgraded facilities and infrastructure to support the introduction of the P-8A aircraft at RAAF Base Edinburgh, SA, RAAF Base Townsville, QLD, RAAF Base Pearce, WA and RAAF Base Darwin, NT, as well as additional explosive ordnance facilities at HMAS *Stirling*. The project is scheduled for completion by late 2020.

### Air Traffic Control Complex Infrastructure Project and Fixed Base Defence Air Traffic Management and Control System (AIR 5431 Phases 2 and 3)

This project will provide facilities across 13 bases in support of replacement Air Traffic Management Surveillance, Command and Control Systems under AIR 5431 Phases 2 and 3, incorporating the replacement of aged and degraded Air Traffic Control Towers. The project is scheduled for completion by late 2021.

### Growler Airborne Electronic Attack Capability Facilities (AIR 5349 Phase 3)

This Project will provide the necessary working accommodation, maintenance, warehousing and training facilities at RAAF Base Amberley, QLD to support the introduction of the Growler Airborne Electronic Attack Capability. The project is scheduled for completion by mid 2021.

#### LAND 121 Stage 2 (Phases 3 and 4)

This project will provide facilities across nine bases to sustain the B-vehicle fleet IAW the Basis of Issue for Army, RAAF and JLC. These facilities will maintain (workshops and repair parts storage), support (fuel points, loading ramps, wash points and weigh bridges) and sustain (shelters and hardstand) the vehicles from vehicle acquisition Phase 3A (G-Wagon), Phase 3B (Light/Light Weight and Medium/Heavy) and Phase 4 (Protected Mobility Vehicles Light). The project is scheduled for completion by mid 2019.

#### Facilities for the MH-60R Seahawk Maritime Combat Helicopters (AIR 9000 Phase 8)

This project will provide new and upgraded facilities for maritime helicopter operations at HMAS *Albatross*, NSW and HMAS *Stirling*, WA and at Eden, NSW. The project includes the provision of facilities for aircraft hangars and workshops, synthetic training and working accommodation primarily at HMAS *Albatross* as well as additional explosive ordnance facilities at HMAS *Stirling* and Eden. The project is scheduled for completion by mid 2017.

#### Helicopter Aircrew Training System (JP 9000 Phase 7)

This project will provide new and upgraded training facilities to support the introduction of the new joint Navy and Army Helicopter Aircrew Training System. The project will provide working accommodation, simulation facilities, training facilities and aircraft hangars at HMAS *Albatross*, NSW as well as communication rooms and helicopter operation areas at Jervis Bay Air field, ACT. The project is scheduled for completion by mid 2017.

#### Defence Terrestrial Communications Network Facilities Upgrade (JP 2047 Phase 3)

This project will provide upgraded and new communications infrastructure and supporting facilities at multiple Defence owned and leased sites across Australia. The project will support the introduction into service of the new Defence Terrestrial Communications Network. The project is scheduled for completion by late 2018.

#### Airfield Capital Works (Curtin, Tindal and Townsville)

This project will resurface asphalt pavement and replace airfield lighting at RAAF Base Curtin, WA, RAAF Base Tindal, NT and RAAF Base Townsville, QLD. The project is scheduled for completion by mid 2018.

#### REDFIN Infrastructure (JP2097 Phase 1B)

This project will provide facilities for the Special Operations Vehicle (SOV) fleet to support mobility and communications for Special Operations Forces. The project is scheduled for completion by early 2019.

#### Pilot Training System Facilities (AIR 5428 Phase 1)

The project will provide fit-for-purpose facilities to support the modern joint training system being delivered by the AIR5428-1 Capability Project, with the facilities planned to be delivered at RAAF Base East Sale, VIC, RAAF Base Pearce and Gin Gin, WA, RAAF Base Williamtown (New South Wales) and RAAF Base Edinburgh (South Australia). The project is scheduled for completion in late 2020.

#### LAND 17 Phase 1B/C

This project will provide facilities at eight Defence establishments to provide the necessary working, storage, maintenance and training facilities to support the additional Lightweight Towed Howitzer and simulation capability being acquired under LAND 17 Phase 1B/1C. The project is scheduled for completion by mid 2018.

#### Land Force Mortar Replacement (LAND 136 Phase 1)

This project will provide facilities to support the introduction into service of new mortar simulation systems. The project is scheduled for completion in late 2017.

#### Defence Centralised Processing Facilities

This project will provide upgrades to building services at eight Defence locations, to support the consolidation of information and communications technology hosting services. The project is scheduled for completion in late 2017.

## APPENDIX F: STATUS OF MAJOR PROJECTS FORESHADOWED FOR GOVERNMENT AND PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS CONSIDERATION (PWC) IN 2017-18

During 2017-18, Defence expects to present a number of facilities proposal to the Government and the Parliamentary Standing Committee on Public Works (PWC). The following table provides details of the proposed major and medium capital projects expected to be referred to the PWC in 2017-18 or seek Government approval in 2016-17. Descriptions for major projects are provided below the table.

**Table 70: Program of Works Foreshadowed for Consideration and Approval**

	State/Electorate	Actual/Indicative PWC Referral Date	Actual/Indicative PWC Hearing Date <sup>[1]</sup>	Current Status
<b>Major Capital Facilities Projects Foreshadowed for PWC Consideration in 2017-18</b>				
Garden Island Critical Infrastructure Recovery Project - Stage 1	NSW - Wentworth	1 March 2017	20 April 2017	In development
LAND 155 Enhanced Gap Crossing Capability	Multiple	1 March 2017	21 April 2017	In development
Russell Buildings R5 and R6 Infrastructure Upgrade	ACT - Fraser	1 March 2017	21 April 2017	In development
HMAS <i>Moreton</i> Unit Relocation (previously known as Bulimba Barracks Partial Disposal and Unit Relocation) <sup>[2]</sup>	Qld - Griffith	30 March 2017	Mid 2017	In development
HMAS <i>Cerberus</i> Redevelopment	VIC - Hastings	Mid 2017	Late 2017	In development
JP2008 Phase 5 B2 – Ground Satellite Station (GSS)	Multiple	Mid 2017	Late 2017	In development
Explosive Ordnance Logistics Reform Program (EOLRP)	Multiple	Mid 2017	Late 2017	In development
Joint Health Command (JHC) Garrison Health Facilities Upgrade	Multiple	Mid 2017	Late 2017	In development
Navy Guided Weapons Sustainment System (NGWSS) Remediation and Augmentation	Multiple	Mid 2017	Late 2017	In development
JP157 Phase 1 Replacement Aviation Refueling Vehicles	Multiple	Mid 2017	Late 2017	In development

**Table 70: Program of Works Foreshadowed for Consideration and Approval (Continued)**

	State/Electorate	Actual/Indicative PWC Referral Date	Actual/Indicative PWC Hearing Date <sup>[1]</sup>	Current Status
<b>Major Capital Facilities Projects Foreshadowed for PWC Consideration in 2017-18</b>				
JP2110 Phase 1B Chemical, Biological, Radiological and Nuclear Defence (CBRND) Capability Facilities <sup>[3]</sup>	Multiple	Mid 2017	Late 2017	In development
Defence Site Maribyrnong Remediation	Vic – Melbourne Ports	Late 2017	Early 2018	In development
Defence Science and Technology Group Edinburgh (DSTG EDN) Conference and Information Systems Centre	SA - Wakefield	Late 2017	Early 2018	In development
Garden Island Critical Infrastructure Recovery Project - Stage 2	NSW - Wentworth	Late 2017	Early 2018	In development
P0007 Aircraft Pavement and Airfield Lighting at RAAF Base Pearce, Gin Gin, RAAF Base East Sale and Army Aviation Centre Oakey	Multiple	Late 2017	Early 2018	In development
Point Wilson Waterside Infrastructure Redevelopment	VIC - Jagajaga	Late 2017/ Early 2018	Early 2018	In development
Facilities to Support Naval Operations in the North	Multiple	Late 2017/ Early 2018	Early 2018	In development
Larrakeyah Barracks Redevelopment	NT - Solomon	Late 2017/ Early 2018	Early 2018	In development
Cultana Training Area Redevelopment Stage 2	SA - Grey	Early 2018	Mid 2018	In development

**Table 70: Program of Works Foreshadowed for Consideration and Approval (Continued)**

	State/Electorate	PWC Notification	Current Status
<b>Medium Projects Foreshadowed to Seek Approval in 2017-18</b>			
SEA 1778 Ph1 - Deployable Mine Counter Measures	NSW - Wentworth	Mid 2017	In development
Combat Training Centre - Jungle Training (Tully) Replacement Stokes Litters and Suspension Bridge	Qld - Kennedy	Mid 2017	In development
DSTO Fishermans Bend, Vic – Underwater Explosive Ordnance (EO) Test Facility	Vic – Melbourne Ports	Mid 2017	In development
Proof and Experimental Establishment (P&EE) Vibration Test Facility - Port Wakefield	SA - Wakefield	Mid 2017	In development
LAND 500 Phase 1 - Remediation of Tactical Land Electronic Warfare	Multiple	Mid 2017	In development
DSTO Graytown Armour Testing Facility	Vic - Murray	Mid 2017	In development
RAAF Base Pearce - Upgrade of Potable Water Infrastructure	WA - Pearce	Late 2017	In development
Land 9000 Chinook Configuration Alignment Program	QLD - Herbert	Mid 2017	In development
LAND154 Phase 2 Stage 1 (Weapons Technical Intelligence) Joint Counter Improvised Explosive Device Capability	Multiple	Mid 2017	In development
2CER Compensatory Hardstand within Gallipoli Barracks	Qld - Ryan	Mid 2017	In development
RAAF Base Amberley Sewerage Treatment Plant	Qld - Blair	Mid 2017	In development
Land 1771 Phase 1 Army Geospatial Support Systems for the Land Force Capability	NSW - Hughes	Late 2017	In development
Building 106 Extensions and Alterations, Environmental Test Facility Proof and Experimental Establishment	SA - Wakefield	Late 2017	In development
Robertson Barracks Small Arms Range Project	NT - Lingiari	Late 2017	In development
LAND154 Phase 2 Stage 2 (Force Protection Electronic Counter Measures) Joint Counter Improvised Explosive Device Capability	Multiple	Early 2018	In development
Upgrade to the Multi-Purpose Wharf at Twofold Bay, Eden	NSW - Eden Monaro	Early 2018	In development

**Notes**

- Hearing dates will be subject to the Committee's consideration and agreement.
- HMAS *Moreton* Unit Relocation Project (previously known as J0126 Bulimba Barracks Partial Disposal and Unit Relocation) costs have increased and now exceed the medium works threshold. This project is now a major project.
- JP2100 Phase 1B – Chemical, Biological, Radiological and Nuclear Defence (CBRND) Capability Facilities cost have increased and now exceed the medium works threshold. This project is now a major project.

## **South Australia**

### Defence Science and Technology Group Edinburgh Conference and Information Systems Centre

This project will provide information and communications technology equipment facilities, and secure meeting, conference and training facilities. Subject to Government and Parliamentary approvals, construction is planned to commence in early 2018 and be complete by mid 2019.

### Cultana Training Area Redevelopment - Stage 2

This project will provide new infrastructure and facilities at the Cultana Training Area, to support ADF training activities. Subject to Government and Parliamentary approvals, construction is planned to commence in late 2018 and be complete by late 2020.

## **Northern Territory**

### Larrakeyah Barracks Redevelopment

This project will provide new and/or refurbished facilities at Larakeyah Barracks. Subject to Government and Parliamentary approvals, construction is planned to commence in late 2018 and be complete by late 2020.

### Naval Operations in the North

This project will provide new facilities to support naval operations, including berthing and fuelling facilities. Subject to Government and Parliamentary approvals, construction is planned to commence in late 2018 and be complete by late 2020.

## **Queensland**

### HMAS *Moreton* Unit Relocation

Purpose is to ensure that Navy's operational and administrative functions are retained after the partial disposal of surplus Defence land at Bulimba Barracks. The project also seeks to construct new facilities and services on the remaining portion of the site to replace those functions that will be displaced due to the partial disposal of the site. Subject to Government and Parliamentary approval, construction is planned to commence in late 2017 and be completed by late 2018.

## **Australian Capital Territory**

### Russell Buildings R5 and R6 Infrastructure Upgrade

The project will provide essential building and engineering services upgrade to extend the life of Russell Buildings R5 and R6. Subject to Government and Parliamentary approval, construction is scheduled to commence in early 2018 and be completed by mid 2021.

## **Victoria**

### HMAS *Cerberus* Redevelopment

Engineering services upgrade, consolidation of Living In Accommodation (LIA) and Mess Facilities, co-location of Clothing Store with Naval Store, School of Survivability and Ship Safety upgrade, Gym upgrade, (Armoury, Explosive Ordnance (EO) and Weapons Storage Facility upgrade,) and demolition. Subject to Government and Parliamentary approval, construction is planned to commence in late 2017 and be completed by late 2019.



#### Remediation of Defence Site Maribyrnong

The project will undertake necessary remediation works at Defence site Maribyrnong, Vic. Subject to Government and Parliamentary approval, construction is planned to commence in late 2017 and be completed by late 2019.

#### Point Wilson Waterside Infrastructure Redevelopment

This project will address deficiencies in the current waterside infrastructure at Point Wilson. Subject to Government and Parliamentary approval, construction is planned to commence in mid 2018 and be complete by late 2021.

### **New South Wales**

#### Garden Island (East) Critical Infrastructure Recovery Project (CIRP) – Stage One

This project will address critical structural, condition and engineering services risks on the Cruiser Wharf at Garden Island (East), Sydney, NSW. Subject to Parliamentary approval, construction is planned to commence in mid 2017 and be completed by late 2020.

#### Garden Island (East) Critical Infrastructure Recovery Project (CIRP) – Stage Two

This project will address critical wharf infrastructure and engineering services risks at Garden Island (East), Sydney, NSW (excluding those being addressed under Stage One). Subject to Government and Parliamentary approval, construction is planned to commence in late 2017 and be completed by mid 2018.

#### JP2008 Phase 5B Ground Satellite Station

This project will provide facilities (mainly engineering services infrastructure) to support JP2008PH5B requirements, at Kapooka Training Base, Wagga Wagga. Subject to Government and Parliamentary approval, construction is planned to commence in mid 2017 and be completed by late 2018.

#### Navy Guided Weapons Maintenance Facilities Project

This project will provide facilities at Defence Establishment Orchard Hills to support maintenance of guided weapons. Subject to Government and Parliamentary approval, construction is planned to commence in mid 2018 and be completed by early 2021.

### **Various Locations**

#### LAND 155 Enhanced Gap Crossing Capability

This project will provide new storage and hardstand facilities to support the introduction of enhanced gap crossing capability at Liverpool Military Area, NSW, Joint Logistics Unit South Queensland, Joint Logistics Unit North Queensland and Joint Logistics Unit North, NT. Subject to Parliamentary approval, construction is planned to commence in late 2017 and be completed by mid 2018.

#### Explosive Ordnance Logistics Reform Program

This project will address explosive ordnance storage capacity shortfalls through delivery of new and enhanced explosive ordnance facilities at 12 Defence sites. Subject to Government and Parliamentary approval, construction is planned to commence in early 2018 and be completed by mid 2020.

**Joint Health Command – Garrison Health Facilities Upgrade**

This project will provide new and refurbished facilities at up to 12 Defence sites to support the efficient delivery of health services for the ADF. Subject to Government and Parliamentary approval, construction is planned to commence in mid 2018 and be complete by early 2020.

**JP157 Phase 1 – Replacement Aviation Refuelling Vehicles**

This project will provide facilities at selected Defence bases to support the new fleet of aviation refuelling vehicles acquired under JP157 Phase 1. Subject to Parliamentary approval, the construction is planned to commence in mid 2018 and be complete in late 2019.

**JP2110 Phase 1B – Chemical, Biological, Radiological and Nuclear Defence (CBRND) Facilities**

This project will provide new and refurbished facilities including training and storage facilities, to support ADF CBRND activities. Subject to Government and Parliamentary approvals, construction is planned to commence in mid 2018 and be complete by late 2018.

**Airfield Capital Works (RAAF Bases Pearce, Gin Gin, East Sale and Army Aviation Centre Oakey)**

This project will provide aircraft pavement and aeronautical ground lighting maintenance works at RAAF Bases Pearce, Gin Gin, East Sale and Army Aviation Centre Oakey. Subject to Government and Parliamentary approvals, construction is planned to commence in mid 2018 and be complete by late 2021.