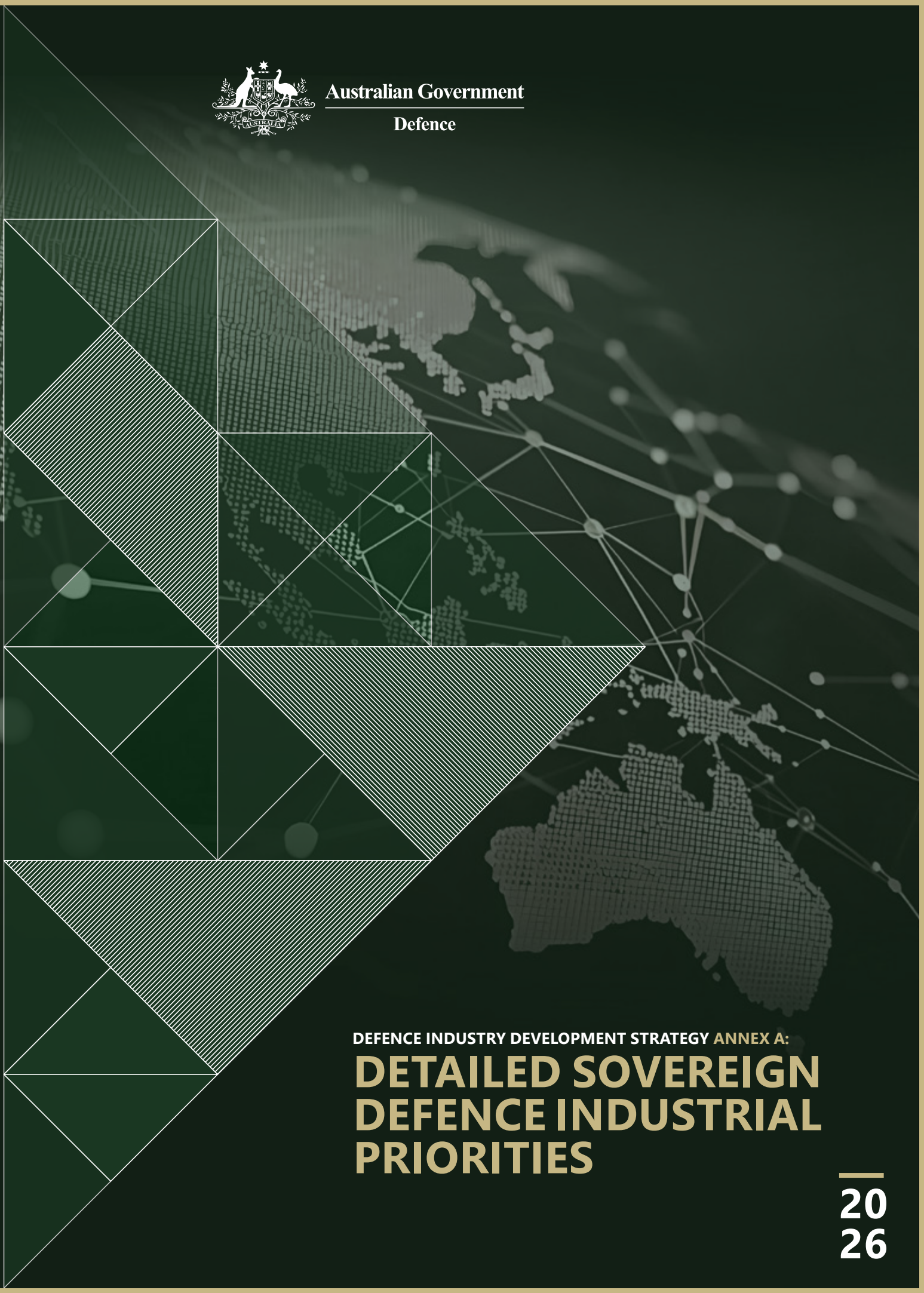

Australian Government
Defence

DEFENCE INDUSTRY DEVELOPMENT STRATEGY ANNEX A:

DETAILED SOVEREIGN DEFENCE INDUSTRIAL PRIORITIES

2026

Defence acknowledges the Traditional Custodians of Country throughout Australia. Defence recognises their continuing connection to traditional lands and waters and would like to pay respect to their Elders both past and present.

Defence would also like to pay respect to the Aboriginal and Torres Strait Islander people who have contributed to the defence of Australia in times of peace and war.

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Australian Government

DEFENCE INDUSTRY DEVELOPMENT STRATEGY

ANNEX A
DETAILED SOVEREIGN DEFENCE INDUSTRIAL PRIORITIES


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Contents

Sovereign Defence Industrial Priorities guide

In line with the Defence Industry Development Strategy cycle the Government will, on a biennial basis, analyse the need for industrial capabilities and identify Sovereign Defence Industrial Priorities required to meet the capability priorities articulated in the 2026 National Defence Strategy.

The purpose of the Detailed Sovereign Defence Industrial Priorities guide is to provide clarity for the intent, and content, within each of the Sovereign Defence Industrial Priorities. It describes the layout of the Detailed Sovereign Defence Industrial Priorities, along with a definition and guidance on each element. It should be read in conjunction with the Defence Industry Development Strategy (Chapter 3 – Prioritisation). Funding for the delivery of Sovereign Defence Industrial Priorities is allocated in the 2026 Integrated Investment Plan. For each Sovereign Defence Industrial Priority, this annex provides the following:

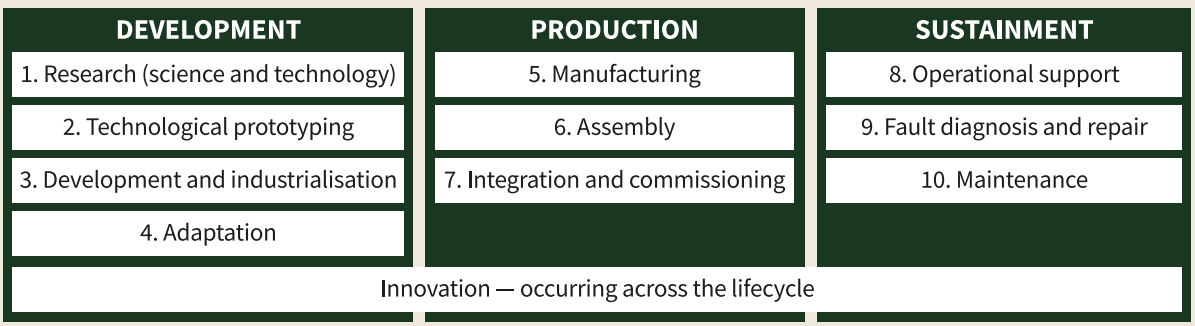
- **Strategic context.** An introduction to the Sovereign Defence Industrial Priorities in the context of the 2026 National Defence Strategy, along with specific information on how the Detailed Sovereign Defence Industrial Priorities have been considered and prioritised and how the current strategic environment has influenced the prioritisation.
- **Lead Delivery Agencies and Capability Operators.** The Defence personnel responsible for the development of each Sovereign Defence Industrial Priority. Lead Delivery Agencies work with the Capability Sponsor and relivant Capability Operator(s) (CapOp) owns the operational use, acceptance and introduction of capability into service, including managing sustainment requirements.
- **Detailed Sovereign Defence Industrial Priorities narrative and target tables.** Specific and granular detail to define where the Government has prioritised development.

Industrial capability lifecycle

The information included in each Detailed Sovereign Defence Industrial Priority provides Defence's requirements against the industrial lifecycle. This is intended to support defence industry in determining areas that may be aligned to an individual company's areas of interest or capability.

The industry capability lifecycle, illustrated in Figure 1, consists of the 10 categories identified with the inclusion of 'Innovation', which occurs across all categories of the lifecycle.

Figure 1: Industrial capability lifecycle for products and services



Note: this industrial lifecycle may occur in full or in part at any point throughout the life of a Defence capability, as required to achieve continuous capability development and delivery.

Table 1 sets out definitions of each stage as they apply to the Sovereign Defence Industrial Priorities, and considers the lifecycle for both hardware and software oriented capabilities.

The Government intends to support businesses to increase their scale and competitiveness to enable them to deliver the identified Sovereign Defence Industrial Priorities. Any potential sources of support and funding that defence industry may access to develop capability or capacity are indicated against each stage of the lifecycle.

Table 1: Industrial capability lifecycle definitions

Lifecycle stage	Definition – Hardware focus	Definition – Software focus	Potential funding Source *(examples only, not comprehensive list)*
1. Research (science and technology)	Applied science to research and develop proofs of concept.	Applied research for novel algorithms, protocols, security models and proofs of concept.	Universities, Advanced Strategic Capabilities Accelerator, Defence Science and Technology Group
2. Technological prototyping	Bridging the gap between scientific discoveries and usable production, by taking proofs of concept to the level of pre-production prototypes.	Prototype development (for example, Minimum Viable Products for identity, application program interface(s), analytics and cyber tooling).	Universities, Advanced Strategic Capabilities Accelerator, Defence Science and Technology Group
3. Development and industrialisation	Industrialisation of a baseline product to allow for 'mass production' to meet the Government's needs.	Hardening and scaling of baseline products and services for enterprise use.	Integrated Investment Program, grants, special funds injections
4. Adaptation	Tailoring and adaptation of baseline products to new domains or applications in a manner that supports industrialisation.	Tailoring baseline solutions to Defence environments and classification needs.	Integrated Investment Program acquisition, grants
5. Manufacturing	Making or producing items or systems on a large scale.	Not generally applicable for software; applies to specialised hardware and network components.	Integrated Investment Program acquisition
6. Assembly	Individual components, parts, and sub-assemblies are combined, fitted or joined together to make a complete and functional product.	Bundling components and services into deployable platforms and environments.	Integrated Investment Program acquisition
7. Integration and commissioning	Combination of separate systems, software or hardware, into a single, unified and functional whole system. Commissioning or set to work activities to establish routine operation.	Set to work of enterprise timing distribution (for example, grandmasters, and boundary clocks), time-stamping, position, navigation and timing, assurance analytics within the single information environment.	Integrated Investment Program acquisition
8. Operational support	Industrial capabilities, supplies and services that Defence has determined must be delivered by industry to provide logistics and support, to sustain Defence capability on operations.	Sustainment services (security operations centre and network operations centre), logistics and on-operation support. Security and network operation centre procedures for time drifts, spoofing or jamming detection signals from cyber sensors, patching or firmware for timing appliances and global navigation satellite system receivers.	Integrated Investment Program sustainment
9. Fault diagnosis and repair	Identification of the root cause of system malfunction, with repair, replacement or enhancement of parts or elements of operational systems or products.	Root-cause analysis and remediation of software and hardware faults.	Integrated Investment Program acquisition and sustainment
10. Maintenance	Industrial capabilities, services and products to keep equipment, facilities and units functional, including routine upkeep, planned and corrective maintenance.	Planned maintenance, patching, and evergreen lifecycle management.	Integrated Investment Program sustainment
Innovation – the identification and creation of opportunities to improve capability outcomes or achieve a capability edge, which occurs across all categories of the lifecycle.			

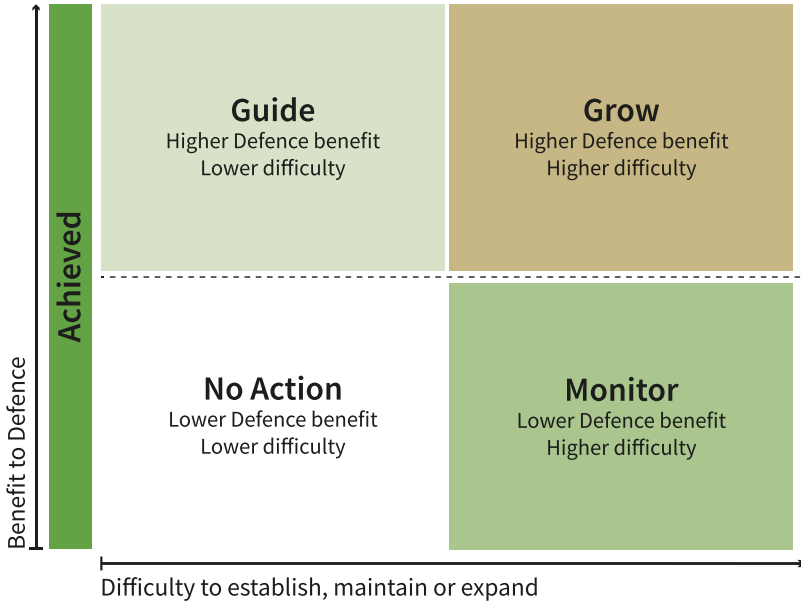
Prioritised future effort

There are many areas where defence industry is already providing a service or capability to Defence at levels required to deliver Government objectives. In order to deliver capability in necessary timeframes, the Government aims to consistently and continuously guide and grow the sovereign defence industrial base to be aligned to Defence's national security needs.

As shown in Figure 2 below, prioritisation of effort and focus is based on:

- **The relative benefit to Defence** - the relative importance to Defence of the industrial capability, and its contribution to delivering Defence capabilities and preparedness within required timeframes.
- **The difficulty/cost to establish the capability in Australia** - the degree of difficulty for defence industry to establish, maintain or expand industrial capability locally within Australia, as necessary to achieve the required characteristics of the sovereign defence industrial base – Capable, Resilient, Competitive, Innovative (Chapter 1 of the Defence Industry Development Strategy). This may relate to the entirety of Australia or specific geographic areas where the capability is required.

Figure 2: Defence approach to prioritisation



The Government will prioritise industrial development and Commonwealth investment into the quadrants of 'Grow' and 'Guide'. Sovereign Defence Industrial Priorities investment refers to specifically investing in industry to support or meet a capability or capacity priority target. A capability element or sub-component will not be listed as a priority in the Grow or Guide quadrants, across any part of the technology lifecycle, if there is no identifiable funding allocated against it. The Government may continue to allocate funds to internal investment – such as the Defence Science and Technology Group and Diggerworks – to maintain, track and monitor current developments in capability areas of interest without specifically investing in defence industry.

Figure 3: Prioritisation quadrants

Grow	The Government will make targeted investments through specific industry support programs. These investments will help establish and grow the required levels of capability and capacity in sovereign priority areas where industry is unlikely to invest due to the difficulty in establishing capability locally and securing a return on investment. This represents the 'Grow' quadrant.
Guide	Within the 'Guide' quadrant, Defence will use the 2026 Integrated Investment Program funding through specific contract requirements, coupled with the Australian Industry Capability (AIC) Program objectives for the establishment of local industrial capabilities. This will guide industry's establishment of capability and capacity within high sovereign benefit areas that are easier to localise in Australia.
Monitor	For industrial capabilities that are of low sovereign benefit and harder for industry to localise, Defence will take no specific action. However, Defence will 'Monitor' the ongoing status and only take action in this quadrant if the strategic benefit raises to become significant – essentially moving that capability into the 'Grow' quadrant.
No Action	Defence will take 'No Action' on industrial capability areas that are of low sovereign value and are easier to localise as this represents capabilities that industry may localise in Australia if they choose to do so.
Achieved	Areas where the industrial capability and capacity that Australia requires are already resident in domestically are captured in the 'Achieved' section of the table.

Over time, priority capabilities may move between quadrants, as Australian requirements change and evolve.

Detailed Sovereign Defence Industrial Priorities narrative and target tables

The Detailed Sovereign Defence Industrial Priorities have a particular focus on the first five years. Each priority has been broken down into capability element sub-components akin to a work breakdown structure. The capability element sub-components are articulated at a sufficiently granular level to demonstrate the make-up of the capability element and allow for targeted effort and investment. Descriptions are generally expressed as a tangible product, product component or system (as sub-components of the capability element) rather than a desired target outcome.

Capability element sub-components may be relevant and therefore addressed in multiple Sovereign Defence Industrial Priorities. Where it is appropriate, capability element sub components have been rationalised to a 'primary' Sovereign Defence Industrial Priority to minimise unnecessary duplication. Where this occurs, the primary Sovereign Defence Industrial Priority has been cross-referenced in any 'secondary' Sovereign Defence Industrial Priorities. For example, Sovereign Defence Industrial Priority 3 – Sustainment and enhancement of the combined-arms land system, has capability element sub-components associated with autonomous systems. As a result, the narrative and target tables section of Sovereign Defence Industrial Priority 3 include cross-referencing to Sovereign Defence Industrial Priority 5.

It should be noted that rationalisation is focused on addressing duplication and overlap of capability element sub-components only, not industrial capabilities. Duplication of industrial capabilities can be considered as a positive 'multiplier' and may be used to identify the breadth or volume of Defence requirements that industry can address.

Each capability element sub-component has been further characterised in terms of the underpinning industrial capabilities that require focus to meet Defence's needs. Industrial capability is intended to indicate what the Government needs from industry to deliver a capability element sub-component in order to meet a target outcome.

An industrial capability provides a product or service, and has the following characteristics (Defence Industry Development Strategy Chapter 2):

- **Business acumen** – the knowledge, systems and administration to run an effective business including security and supply chain resilience
- **Intellectual property** – ownership of, or sufficient access to, detailed product knowledge and information, including the ability to innovate or develop improved and/or new products and services;
- **Workforce** – the right mix of suitability qualified and experienced personnel and pipeline of future talent; and
- **Capital** – investments in innovation assets, space, facilities, inputs and cash flow.

Industrial capability is not the target outcome itself. For example, Defence's desired outcome may be the continuous improvement of an electrical control system's functionality and the industrial capabilities to achieve this outcome could be software development and systems integration. As with capability element sub-components, the industrial capabilities have been articulated at a sufficiently granular level to inform defence industry of where the Government intends to invest.

The breakdown of capability element sub-components, with industrial capabilities, have been reflected for each relevant Sovereign Defence Industrial Priority in a target table that indicates which quadrant the element will be actioned in. This is set out in the following Priority target table key, noting that in some instances Australia may already have the required capability but has a need to build capacity in industry.

Key – Priority target tables:

Grow	Guide	Monitor	No Action	Achieved

Where decisions have been made for the establishment of strategic partnerships or other longer-term arrangements, this may be indicated against specific capability element sub-components to provide industry transparency of future opportunities.

In order to reflect the breadth of needs at appropriate levels of granularity, Detailed Sovereign Defence Industrial Priorities tables may have been tailored, or multiple tables may have been populated, to suit the specific context of the Sovereign Defence Industrial Priority. For example, Sovereign Defence Industrial Priority 3 – Sustainment and enhancement of the combined-arms land system, currently has five tables (Littoral Platforms; Land Platforms; Individual Combatant; Expeditionary Basing; and Artillery Systems – Targeting, Strike and Air Defence).

Capability roles

The new Defence Capability System retires the roles of Capability Manager and Delivery Manager, and introduces a new, clearer role architecture. Under the new Defence Capability System:

- The Capability Sponsor owns the capability project before approval. They are responsible for integrating inputs from across the Defence portfolio; ensuring that all proposals are strategically aligned, operationally justified, accurately costed, technically feasible, affordable and deliverable; and for developing capability proposals for government consideration. This will include drawing on expertise from within the Defence Delivery Agency. Under the redesigned capability system, the Vice Chief of the Defence Force is the Capability Sponsor for the five warfighting domains, maritime, land, air, space and cyber.
- The Lead Delivery Agency owns delivery of capability projects against the approved baseline and is responsible for coordinating materiel Fundamental Input to Capability elements within the project scope. The Lead Delivery Agency ensures that cost, schedule, risk and delivery dependencies are actively managed through to

acceptance into service. The DDA will be the Lead Delivery Agency for warfighting projects, Defence Digital Group will be the Lead Delivery Agency for ICT projects, and Security Estate Group will be the Lead Delivery Agency for estate and infrastructure projects.

- The Supporting Delivery Agency/Groups provide specialist delivery advice and execute defined project elements under the coordinating authority of the Lead Delivery Agency.
- The Capability Operator owns the operational use, acceptance and introduction of capability into service, including managing sustainment requirements.

The Vice Chief of the Defence Force is accountable for capability prioritisation and submissions, and is the Capability Sponsor for the seven Sovereign Defence Industrial Priorities.

The Defence Delivery Group/Agency is the Lead Delivery Agency for the seven Sovereign Defence Industrial Priorities, under the leadership of the National Armaments Director as Industry Steward.

Sovereign Defence Industrial Priority 1

Maintenance, repair, overhaul and upgrade of Australian Defence Force aircraft

Strategic context

A sovereign industrial aircraft maintenance, repair, overhaul and upgrade capability is critical to optimising aircraft availability and ensuring it is not compromised, especially during times of conflict. It is essential that Australia grow and guide its aircraft maintenance, repair, overhaul and upgrade capability in order to increase supply chain security and resilience. This will provide the increase in capacity needed to support Australia and our allies and partners with whom we have aircraft maintenance, repair, overhaul and upgrade interoperability during times of conflict.

A key element of a sovereign aviation capability is the ability for Defence and Australian industry to maintain, repair, overhaul and upgrade Australian Defence Force (ADF) aircraft. Many ADF aircraft are manufactured by United States original equipment manufacturers, purchased through Foreign Military Sales and subject to International Traffic in Arms Regulations. This sees maintenance, repair, overhaul and upgrade of ADF aircraft inextricably linked to the original equipment manufacturers, United States Government export controls and their global supply chains.

For some aircraft, sovereign capability has been developed for critical maintenance, repair, overhaul and upgrade activities where industrial capability is able to integrate into the platform supply chain or meet key tasks where offshore maintenance is not viable. Defence aims to increase its sovereign industrial capability and reduce the dependence on global supply chains where feasible and sensible to do so.

Current state

Defence is working with industry to increase sovereign industrial capabilities relevant to this Sovereign Defence Industrial Priority; for example, establishment of MH-60R Seahawk helicopter technical workforce training. Defence is currently working with a number of state and territory governments to progress the following initiatives:

- Creation of Queensland maintenance, repair, overhaul and upgrade hubs in Townsville, Toowoomba and Brisbane;
- Creation of the Hunter Region maintenance, repair, overhaul and upgrade hub, New South Wales;
- Creation of the Edinburgh maintenance, repair, overhaul and upgrade precinct, South Australia;
- Increased sovereignty for aircraft surface finishing;
- Increased sovereignty for maintenance program optimisation;
- Improved management of Australian Industry Capability plans;
- Improved sovereignty of prioritised repairable items;
- Sustainment of a sovereign Aerospace Propulsion Centre of Expertise; and
- Establish technical workforce training initiatives to increase capacity and competency.

Australia aims to activate repair capabilities and the supply of components for ADF aircraft over the next two to five years. Commonality of aircraft and components with partner nations will see other nations' aircraft undergoing maintenance, repair, overhaul and upgrade at Australian maintenance organisations. This approach is currently being actively pursued at the component level of the T-700 engines for the MH-60R.

Detailed Sovereign Defence Industrial Priorities narrative and target tables

Aircraft maintenance, repair, overhaul and upgrade refers to the integrated set of regulated technical, engineering, and logistical activities undertaken to sustain, restore, certify, and enhance an aircraft or aeronautical product throughout its operational life, ensuring continued airworthiness, safety, performance, and mission capability, while incorporating approved modifications or capability upgrades where required.

The capability element sub-components identified for the maintenance, repair, overhaul and upgrade of ADF aircraft are:

- Aircraft deeper maintenance – heavy aircraft maintenance or major checks, designed to maintain airworthiness and preserve capability;
- Aircraft major upgrade incorporation – modifications to enhance capability or to improve safety, reliability, availability and maintainability, through new or upgraded systems or components, typically as part of a block or spiral upgrade program;
- Repairable item repair and overhaul – component maintenance, including fault diagnosis and repair of electrical, avionics, communications, self-protection, mechanical, fuel, pneumatic and hydraulic systems;
- Propulsion system repair and overhaul – off-aircraft, deeper maintenance of propulsion systems, including tear-down, build-up and test;
- Aircraft Structural Integrity and Propulsion System Integrity management – Aircraft Structural Integrity Programs and Propulsion System Integrity Programs to ensure the desired level of integrity is maintained throughout the life of an aircraft or system to maximise capability outcomes. This also includes the ability to develop and implement airworthy non-standard repairs for metallic and advanced composite structures;
- Surface finishing – application and maintenance of aircraft paint and low observable (stealth) coatings;
- Corrosion prevention and repair – prevention and repair of aircraft corrosion; closely linked to structural integrity management and surface finishing, but separately identified due to Australia's specific environment; and
- Maintenance program optimisation – Logistics Support Analysis, Maintenance Requirements Determination, Reliability Availability Maintainability and supply chain analysis, and maintenance cycle and fleet planning to optimise the conduct of maintenance within the constraints of technical workforce capacity, and to inform Defence decisions

The maintenance, repair, overhaul and upgrade capability element sub components are shown in the table below. Capability element sub-components relevant to this Sovereign Defence Industrial Priority may also be addressed in other Sovereign Defence Industrial Priorities. No Sovereign Defence Industrial Priority 1 cross-referenced capability element sub-components have been identified at this time.

Further guidance on priority areas and associated industry capability in the one to 10 years range, with particular focus on the next five years, is set out in the table below.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808

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Component Description	**Industrial Capability**	**Research (Science and Technology)**	**Technological Prototyping**	**Development and Industrialisation**
Aircraft Deeper Maintenance	• *Specialist processes* › *Fault diagnosis and repair* • *Mechanical engineering* › *Component manufacture*	No Action	No Action	No Action
Aircraft major upgrade incorporation	• *Specialist processes* › *Systems engineering*	No Action	No Action	No Action
Repairable item repair and overhaul	• *Specialist processes* › *Fault diagnosis and repair* • *Mechanical engineering* › *Component repair*	No Action	No Action	No Action
Propulsion system repair and overhaul	• *Specialist processes* › *Engineering*	No Action	No Action	No Action
Aircraft structural Integrity and Propulsion System Integrity management	• *Specialist processes* › *Systems engineering* › *NDT*	Monitor	No Action	No Action
Surface finishing	• *Specialist processes* › *Chemical development* › *Manufacturing* › *Fault diagnosis and repair*	Guide	Guide	Guide
Corrosion prevention and repair	• *Specialist processes* › *Chemical development* › *Manufacturing* › *Fault diagnosis and repair*	Guide	Guide	Guide
Maintenance program optimisation	• *Specialist processes* › *Aircraft engine management*	Guide	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
No Action	Grow	No Action	No Action	Monitor	Grow	Guide
No Action	No Action	Monitor	Monitor	No Action	No Action	No Action
No Action	Grow	No Action	No Action	No Action	Grow	Guide
No Action	No Action	No Action	Guide	No Action	Monitor	Monitor
No Action	No Action	No Action	No Action	Monitor	Monitor	Achieved
Guide	Guide	No Action	No Action	No Action	Guide	Monitor
Guide	Guide	No Action	No Action	No Action	Guide	Monitor
No Action	No Action	No Action	Guide	Guide	No Action	Achieved

Sovereign Defence Industrial Priority 2

Continuous naval shipbuilding and sustainment

Strategic context

In 2024, the Government reaffirmed its commitment to continuous naval shipbuilding and sustainment through the release of the 2024 National Defence Strategy and the 2024 Naval Shipbuilding and Sustainment Plan. Through these policies, Government brought into sharper focus the role of maritime capability in the future integrated force, as well as the role of the sovereign maritime industrial base in supporting *National Defence* and the Strategy of Denial.

The 2026 National Defence Strategy reiterates the importance of maritime capability and increases the emphasis on self-reliance, resilience and preparedness. In the maritime domain, resilience and preparedness are underpinned by Australia's sovereign industrial capabilities developed through continuous naval shipbuilding and sustainment.

Continuous naval shipbuilding and sustainment is integral to *National Defence* both directly through delivery and sustainment of the integrated joint force, and indirectly through a healthier, more diverse economy and industrial base. Achieving both requires balanced Government investment in a steady pipeline of maritime capability demand, integrated with the coordinated uplift of Australia's maritime industrial capabilities.

The substantial investment in continuous naval shipbuilding will also assure the levels of sovereign industrial capacity and capability required to support the resilience and preparedness demands of *National Defence*.

The delivery of maritime industrial uplift will be achieved through a whole-of-nation effort including close collaboration with continuous naval shipbuilding and sustainment Enterprise partners across all levels of government, industry, trade unions, and academia, underpinned by appropriate balanced ongoing investments, and with the support of key international partners.

Detailed Sovereign Defence Industrial Priorities narrative and target tables

More information on the detailed industrial capabilities that sit within this Sovereign Defence Industrial Priority will be identified and published in the 2026 Naval Shipbuilding and Sustainment Plan.

Sovereign Defence Industrial Priority 3

Sustainment and enhancement of the combined-arms land system

Strategic context

The 2024 National Defence Strategy affirms the need for continued investment in the amphibious-capable combined-arms land system. This combined arms system is based on the coordinated employment of integrated land force elements, tailored to mission, threat and terrain to achieve decisive effects in close combat.

At the heart of the combined arms land system are the Army's close combatants. These soldiers form the nucleus of the combined arms system and are supported by a range of small arm weapons and platforms including infantry fighting vehicles, combat reconnaissance vehicles, main battle tanks, long-range precision strike and self-propelled howitzers, engineer breaching and bridging capabilities, protected logistics, battlefield aviation, short range ground based air defence, uncrewed aerial systems and counter-small uncrewed aerial systems. All of these elements are enabled by robust, deployable and secure command, control, communication, computing and intelligence, surveillance and reconnaissance systems. The amphibious-capable combined arms land system will manoeuvre in the littoral aboard dedicated watercraft, and on Navy's amphibious ships.

Investment in the combined arms land system ensures that the Army is optimised for littoral manoeuvre, enabling land forces to secure and control strategic land positions. This capability is underpinned by a focused defence industry who play a critical role in the design, development and sustainment of our individual combatant systems, platforms, equipment, training and (potentially) delivery of deployed services.

Current state

Defence is currently working to establish, reinforce and expand an industrial base to support domestic innovation, design, integration, manufacture and sustainment of land materiel. Notable achievements to date include:

- Support of sovereign design, manufacture and sustainment of key littoral platforms including the Landing Craft Medium and Landing Craft Heavy.
- Support of sovereign manufacture, assembly or sustainment of land platforms including the Boxer Combat Reconnaissance Vehicle, Redback Infantry Fighting Vehicle, and Bushmaster and Hawkei protected mobility vehicles, and AS9 Self Propelled Howitzer.
- Continued sovereign manufacture of assault rifles, combat uniforms, and body armour.
- Sovereign sustainment of critical individual combatant equipment including body armour, combat helmets, load carriage equipment, combat weapons, weapon systems, uncrewed aerial systems and counter-small uncrewed aerial systems.
- Collaboration with Australian industry and academia to experiment with innovative technologies to realise sovereign Robotics and Autonomous Systems capabilities.

Detailed Sovereign Defence Industrial Priority narrative and target tables

Capability element sub-components relevant to this Sovereign Defence Industrial Priority may also be addressed in other Sovereign Defence Industrial Priorities. Sovereign Defence Industrial Priority 3 cross-referenced capability element sub-components include the following:

- Sovereign Defence Industrial Priority 2 – Littoral Platforms Landing Craft Medium and Landing Craft Heavy;
- Sovereign Defence Industrial Priority 4 - Guided Weapons Munitions;
- Sovereign Defence Industrial Priority 5 – Development and Integration of Autonomous Systems;
- Sovereign Defence Industrial Priority 6 – Mounted, Dismounted and Artillery Battle Management Systems; and
- Sovereign Defence Industrial Priority 6 - Multi Mission Phased Array Radars.

Further guidance on priority areas and associated industry capability in the range of 1 to 10 years, with a particular focus on the first five years, is set out in the tables below.

Littoral Platforms

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components Description	Industrial Capability	Research	Technological Innovation	Development and Industrialisation
Amphibious Vehicle – Logistics	• *Manufacturing* › *Mechanical* • *Asset and capability management* • *Maintenance* › *Planned and corrective* › *Fault finding and repair*	Monitor	Monitor	Monitor
Landing Craft Facilities in Darwin, northern QLD and SE QLD	• *Specialist facilities* › *Design* › *Test and evaluation and certification* › *Maintenance Civil Works – general* • *Port facilities works*	No Action	No Action	No Action

Land Platforms

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	Industrial Capability	Research	Technological Innovation	Development and Industrialisation
Armoured Vehicles – Combat Reconnaissance Vehicle (CRV) – Infantry Fighting Vehicle (IFV)	• *Engineering* › *Design* › *Systems integration – rocketry launchers* • *Manufacturing* › *Mechanical* • *Primary materials – steel* • *Specialist processes* › *Armoured steel welding* › *Machining* › *Test and evaluation and certification* • *Specialist facilities* › *Test and evaluation and certification* • *Products and systems* › *Complex battery systems and power management* › *Track systems (rubber)* › *Missile defence systems* › *Chemical, Biological Radiological, Nuclear, Explosive* › *Ceramic Armour* › *Military Coatings/Paint (CARC and NIRR)* • *Propulsion systems* › *refurbishment and maintenance* › *Software application - predictive maintenance (HUMS)* • *Asset and capability management* • *Maintenance, repair and overhaul* • *Export opportunities*	Monitor	Monitor	Grow

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	Guide	Guide	Guide	Guide	Guide	Guide
No Action	Guide	Guide	Guide	Guide	Guide	Guide

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	Guide	Guide	Guide	Guide	Guide	Guide

Land Platforms

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Direct Fire Systems: – M1A2 Abrams SEPv3 Main Battle Tank	• *Engineering* › *Systems integration (equipment packaging and installation)* • *Products and systems* › *Missile defence systems* › *Direct fire weapons* › *Ceramic armour* • *Asset and capability management* • *Maintenance, repair and overhaul*	No Action	No Action	No Action
M88A2 Heavy Equipment Recovery Combat Utility Lift and Extraction System (HERCULES) Heavy Armoured Recovery Vehicle	• *Engineering* › *Equipment packaging and installation* • *Products and systems* › *Missile defence systems* › *Ceramic armour* › *Fuel supply* • *Asset and capability management* • *Maintenance, repair and overhaul*	No Action	No Action	No Action
Bridging and Breeching – M1110 Joint Assault Bridge (JAB) – M1150 Assault Breacher Vehicle (ABV)	• *Engineering* › *Systems integration (rocketry launchers)* • *Asset and capability management* • *Maintenance* › *Planned and corrective* › *Systems refurbishment* • *Hydraulics* › *Fault finding and repair* › *Specialist processes - configuration baseline management*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
No Action	No Action	No Action	Guide	Guide	Guide	Guide
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor

Land Platforms

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Protected Mobility Vehicles **– Medium (Bushmaster)** **– Light (Hawkei)**	• *Engineering* › *Design* › *Systems integration (rocketry launchers)* • *Manufacturing* › *Mechanical* • *Assembly* › *Mechanical and electrical* • *Primary materials – steel* • *Specialist processes* › *Armoured steel welding* › *Machining* › *Chemical, Biological Radiological, Nuclear, Explosive* › *Test and evaluation and certification* • *Specialist facilities* › *Test and evaluation and certification* • *Products and systems* › *Transparent armour* › *Remote weapons stations* › *Chemical, Biological Radiological, Nuclear, Explosive* • *Software application* › *Predictive maintenance (HUMS)* • *Asset and capability management* • *Maintenance* › *Planned and corrective* › *Systems refurbishment* • *Fault finding and repair* • *Export opportunities*	Guide	Guide	Guide
B Vehicles **– Medium Heavy Capability (MHC)**	• *Engineering* › *Design* › *Systems integration* • *Manufacturing* › *Mechanical* • *Assembly* › *Mechanical and electrical* • *Products and systems* › *Transparent armour* • *Specialist facilities* › *Test and evaluation and certification* • *Specialist processes* › *Test and evaluation and certification* • *Asset and capability management* • *Maintenance* › *Planned and corrective – light and medium* › *Systems refurbishment* • *Fault finding and repair*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	Guide	Guide	Guide	Guide	Guide	Guide
No Action	No Action	No Action	Monitor	Monitor	Monitor	Monitor

Land Platforms

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Trailers	• *Engineering* › *Systems integration* • *Manufacturing* › *Mechanical* • *Assembly* › *Mechanical and electrical* • *Products and systems* › *Transparent armour* • *Specialist facilities* › *Test and evaluation and certification* • *Specialist processes* › *Test and evaluation and certification* • *Asset and capability management* • *Maintenance* › *Planned and corrective – heavy grade* › *Systems refurbishment* • *Fault finding and repair*	No Action	No Action	No Action
Military appliques to support military operations	• *Engineering* › *Systems integration* • *Engineering – armour* • *Products and Systems* › *Ceramic components* • *Specialist facilities* › *Test and evaluation and certification* • *Specialist processes* › *Test and evaluation and certification* • *Asset and capability management*	Monitor	Monitor	No Action
Training and simulation systems - individual	• *Products and systems* • *Training* › *classroom based* › *simulation based* › *live/practical*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor
Monitor	Monitor	No Action	Monitor	Monitor	Monitor	Monitor

Individual Combatant

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Protective Equipment (Combat Uniforms)	• *Strategic arrangement in place (Defence Clothing Services Contract)* • *Certain items mandated to be manufactured in Australia* • *Design engineering* • *Manufacturing* • *Testing and qualification* • *Export opportunities*	Monitor	Monitor	Monitor
Protective Equipment (Body armour)	• *Design research* › *Performance/threat assessments* • *Manufacturing – casting, pressing* • *Test and qualification* • *Testing labs/infrastructure* › *Equipment* › *Armour* › *Armoured glass*	Guide	Guide	Guide
Protective equipment (Combat Helmet)	• *Manufactured overseas with local refurbishment and recertification* • *Test and qualification* • *Testing labs/infrastructure*	No Action	No Action	No Action
Load Carriage Equipment (SCE19)	• *Currently manufactured overseas* • *Design research* › *Human factors, textiles* • *Performance/environmental assessments* • *Manufacturing* • *Testing and qualification*	No Action	No Action	No Action
Individual Lethality Equipment – Small Arms (Assault Rifle)	• *Design engineering* • *Manufacturing* • *Testing and qualification* • *Testing labs/infrastructure* • *Repair and maintenance*	Monitor	Monitor	Monitor
Small Calibre munitions and High Explosives	• *Government owned, contractor operated arrangement* • *Design engineering and formulations* • *Manufacturing* › *Shell casing* › *Propellant* › *Round assembly* • *Manufacturing high explosives* • *Testing and qualification* • *Testing labs/infrastructure*	Guide	Guide	Guide
Crew Served Lethality Equipment – Small Arms (Family of Machine Guns)	• *Design engineering* • *Manufacturing at component level for sparing* • *Manufacturing* • *Testing and qualification* • *Testing labs/infrastructure* • *Repair and maintenance*	No Action	No Action	Grow
Crew Served Lethality Equipment (Anti-Armour Systems)	• *Manufactured overseas* • *Testing and qualification*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Monitor	Monitor	Monitor	Guide	Guide	Monitor	Monitor
Monitor	Guide	Monitor	Monitor	Monitor	Monitor	Monitor
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor
Monitor	Monitor	Monitor	Monitor	Guide	Guide	Guide
Guide	Guide	Guide	Guide	Guide	Guide	Guide
Grow	Grow	Monitor	Monitor	Monitor	Monitor	Monitor
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor

Individual Combatant

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Situational Awareness (Night Fighting Equipment)	• *Manufactured Overseas* • *International Traffic in Arms Regulations and non-International Traffic in Arms Regulations items* • *Repair and Maintenance* › *Calibration, optical bench testing*	No Action	No Action	No Action
Counter Chemical, biological, radiological and nuclear defence equipment	• *Innovation* › *lab research* › *field research* • *Biological/Chemical weapons technology* • *Asset and capability management* • *In-country Prime Vendor*	Monitor	Monitor	No Action
Combat Rations	• *Innovation* › *lab research* › *field research* • *Manufacturing* • *Packaging, storage and distribution* • *Surge requirements – capacity*	Monitor	Monitor	Monitor
Training and simulation systems	• *Products and systems* › *Field training, exercise platforms* • *Training* › *classroom based* › *simulation based* › *live/practical*	No Action	No Action	No Action
Deployable counter-small uncrewed aerial system	• *Product/System assembly* • *Systems integration engineering* • *Test and evaluation* • *Asset and capability management* • *Repair and maintenance* • *Fault Finding and repair*	Grow	Grow	Grow
Deployable Small Uncrewed Aerial Systems	• *Product/System assembly* • *Systems integration engineering* • *Test and evaluation* • *Asset and capability management* • *Repair and maintenance* • *Fault finding and repair*	Grow	Grow	Grow
Counter explosive threats	• *Innovation* › *lab research* › *field research* • *Explosives technology design engineering* • *Systems integration engineering* • *Testing and qualification*	Monitor	Monitor	Monitor

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor
Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Monitor	Monitor	No Action	Monitor	Monitor	Monitor	Monitor
Grow	Grow	Grow	Grow	Grow	Grow	Grow
Grow	Grow	Grow	Grow	Grow	Grow	Grow
Monitor	Monitor	Monitor	Monitor	Guide	Guide	Guide

Expeditionary Basing

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	Industrial Capability	Research	Technological Innovation	Development and Industrialisation
Specialist deployable infrastructure – maintenance facilities and medical deployable infrastructure	• *Civil works – general* • *Design engineering and systems integration engineering* • *Asset and capability management* • *Repair and maintenance* • *Operation of facilities – primarily in-country* • *Camp design – prime systems integration*	No Action	No Action	No Action
Specialist shelter systems – construct of deployable camp including (hotel services) kitchen, laundries, recreation facilities etc	• *Civil works – general* • *Design engineering* • *Products and systems* • *Systems integration engineering* • *Asset and capability management* • *Repair and maintenance* • *Operation of facilities (primarily in-country)* • *Camp design* › *Prime systems integration*	No Action	No Action	No Action
Fuel distribution systems	• *Systems integration engineering* • *Manufacturing – general and machining* • *Products and systems* • *Asset and capability management* • *Repair and maintenance* • *Hold and distribution systems*	No Action	No Action	No Action
Power distribution systems	• *Systems integration* • *Manufacturing* • *Products and systems* • *Systems integration engineering* • *Asset and capability management* • *Repair and maintenance* • *Power management systems* • *Power storage*	No Action	No Action	No Action
Water production systems	• *Source, purify, hold, distribution systems* • *Systems integration* • *Manufacturing* • *Products and systems* • *Systems integration engineering* • *Asset and capability management* • *Repair and maintenance*	No Action	No Action	No Action
Waste Management	• *Systems integration* • *Manufacturing* • *Products and systems* • *Systems integration engineering* • *Asset and capability management* • *Repair and maintenance*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
No Action	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
No Action	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
No Action	No Action	Monitor	Monitor	Monitor	Monitor	Monitor
No Action	No Action	Monitor	Monitor	Monitor	Monitor	Monitor

Artillery Systems – Targeting, Strike and Air Defence

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
High Mobility artillery Rocket System (HIMARS) platform only	• *Asset and capability management* • *Repair and maintenance* • *Mechanical and electrical maintenance* • *Integration of Command, Control, Communication, Computers and Intelligence* • *Engineering certification – platform/ software*	No Action	No Action	No Action
Training and simulation systems - individual	• *Products and systems* • *Training – classroom based* • *Training – simulation based* • *Training – live/practical*	No Action	No Action	No Action
National Advance Surface to Air Missile System (NASAMS)	• *Asset and capability management* • *Repair and maintenance* • *Mechanical and electrical maintenance* • *Systems of systems integration and testing*	No Action	No Action	Achieved
AS9 Self Propelled Howitzer and AS10 Armoured Ammunition Resupply Vehicle	• *Engineering design* • *Systems integration* › *Command, Control, Communication, Computers and Intelligence* › *Explosive ordnance integration* › *Weapon systems* › *Protection systems* › *Mobility enhancements* • *Manufacturing* › *Armoured steel welding* › *Machining* › *Vehicle assembly and test* • *Propulsion systems* › *Refurbishment and maintenance* • *Mechanical and electrical maintenance* • *System and sub-systems test and evaluation* • *Engineering certification – platform/ software*	No Action	No Action	Achieved
Towed Artillery and Mortar	• *Asset and capability management* • *Repair and maintenance* • *Mechanical and electrical maintenance* • *Systems integration of Command, Control, Communication, Computers and Intelligence* • *Engineering certification – platform/ software*	No Action	No Action	No Action
81mm Mortar	• *Product procurement*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
No Action	No Action	No Action	No Action	Guide	Guide	Guide
Monitor	Monitor	No Action	Monitor	Monitor	Monitor	Monitor
Achieved	Achieved	Achieved	Guide	Guide	Guide	Guide
Guide	Guide	Guide	Guide	Guide	Guide	Guide
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor
No Action	No Action	No Action	No Action	Monitor	Monitor	Monitor

Sovereign Defence Industrial Priority 4

Domestic manufacture of guided weapons, explosive ordnance and munitions

Strategic context

The proliferation of long-range precision guided missiles has rapidly reduced Australia's geographic advantage. The key features of the Government's response to this deteriorating strategic environment include investing in capabilities that enhance Australia's readiness and preparedness, and increase our resilience and self-reliance. Guided weapons are fundamental for the ADF to build enhanced lethality and long-range precision strike.

Government is investing in significant development of Australia's sovereign capability to develop, manufacture, assemble and sustain key weapon systems and components. For example, thanks to Defence's strong partnerships with Norway and Kongsberg, Australia now exports locally-made Naval Strike Missile Launcher Systems and Coastal Defence System Command and Control Consoles to three European countries. As industry capability in the four key domestic manufacturing projects matures, Government remains committed to ensuring Australian industry is globally competitive and domestically resilient. Further strategic direction setting will occur as part of the biennial strategy cycle.

Building guided weapons and explosive ordnance stocks and establishing a domestic manufacturing capability are critical to ensuring Defence has access to the munitions needed to keep Australia safe and improving the resilience of supply chains.

Guided weapons and explosive ordnance industry engagement

The entry point for industry seeking to support Defence in the uplift of sovereign guided weapon, munitions and explosive ordnance. GWEO industry can provide further information on opportunities for Australian industry and linkages with the existing ecosystem.

Contact: gweo.industry@defence.gov.au

Detailed Sovereign Defence Industrial Priority narrative and target tables

More information on the detailed industrial capabilities that sit within this Sovereign Defence Industrial Priority will be identified and published in the 2026 Guided Weapons and Explosive Ordinance Plan.

Sovereign Defence Industrial Priority 5

Development and integration of autonomous systems

Strategic context

Autonomous systems offer Defence the opportunity to generate affordable mass, increase range and lethality and increase force protection. Highly capable autonomous systems are a force multiplier across all domains in both the physical and cyber-physical sense. They have the ability to provide a sustained effect that is adaptable, while being potentially low cost and consumable. They also offer significant opportunities in logistics for all domains both within Australia and overseas. Autonomous systems are cost effective while providing a deterrent to potential adversaries.

Recent global conflicts have demonstrated the decisive impact of low-cost autonomous capabilities in delivering scalable effects while limiting risk to personnel. These lessons, combined with Australia's strategic need for persistent Intelligence Surveillance and Reconnaissance, long-range precision strike, and affordable mass, have driven the Government to prioritise autonomous systems development and integration across maritime, land and air domains in the Integrated Investment Program.

Defence's continuous capability development model supported by Advanced Strategic Capabilities Accelerator (ASCA), digital engineering, rapid prototyping, and industry partnerships ensures autonomous systems can evolve at the pace of emerging threats, enabling teaming, swarming, human-machine integration and resilient Intelligence Surveillance and Reconnaissance and strike capabilities across all domains.

Current state

Defence's work with industry to date has advanced system architecture, guidance and control, mission payloads and autonomous enablers to the point where government approved acquisition of large numbers of uncrewed underwater and surface systems in 2025 and early 2026.

Examples of this work include:

- uncrewed underwater vehicles, such as the Ghost Shark Extra-Large Autonomous Underwater Vehicle and the Speartooth Large Uncrewed Underwater Vehicle, to complement the Navy's surface combatant fleet and conventionally-armed, nuclear-powered submarines and the Ocius Uncrewed Surface Vehicle Bluebottle for deployment in persistent maritime patrol, Intelligence Surveillance and Reconnaissance and long-duration operations.
- collaborative combat aircraft like the MQ-28A Ghost Bat, providing a potentially asymmetric surveillance and strike capability.
- Counter-small Uncrewed Aircraft systems under LAND 156 (addressed in Sovereign Defence Industrial Priority 3).
- Land robotic and autonomous systems under LAND 135, including attritable unscrewed platforms that operate across littoral domains to enhance the land force's lethality, survivability, and sustainability.
- Multiple Small Uncrewed Aerial Systems (such as the SYPAQ Systems Corvo X and Quantum Systems Vector 2-in-1) and Tactical Uncrewed Aerial Systems (such as the Insitu Integrator) under DEF129 to support persistent Intelligence Surveillance and Reconnaissance and enhanced force protection.

ASCA has also developed a range of sovereign very small Uncrewed Aerial Systems, which have transitioned to a Standing Offer Panel procurement arrangement across the whole of Defence. In addition, the ASCA has issued decision advantage capability contracts related to machine reasoning, automated data integration and artificial intelligence. These $40 million contractual investments are building long-term partnerships with industry, research institutions and universities for faster technology development.

These programs demonstrate Defence's recent efforts to mature these capabilities from experimentation and demonstration to scalable operational effect. The rapidly changing nature of this technology will see Government continue to invest in experimentation efforts to inform the generation of a scalable operational effects.

Funding availability will be shaped by the Integrated Investment Program cycle and the requirement to balance affordability with rapid adoption of Minimum Viable Capabilities identified through the ICA process.

Detailed Sovereign Defence Industrial Priorities narrative and target tables

A common taxonomy is adopted across the autonomous systems. Capability Element Sub-Components include:

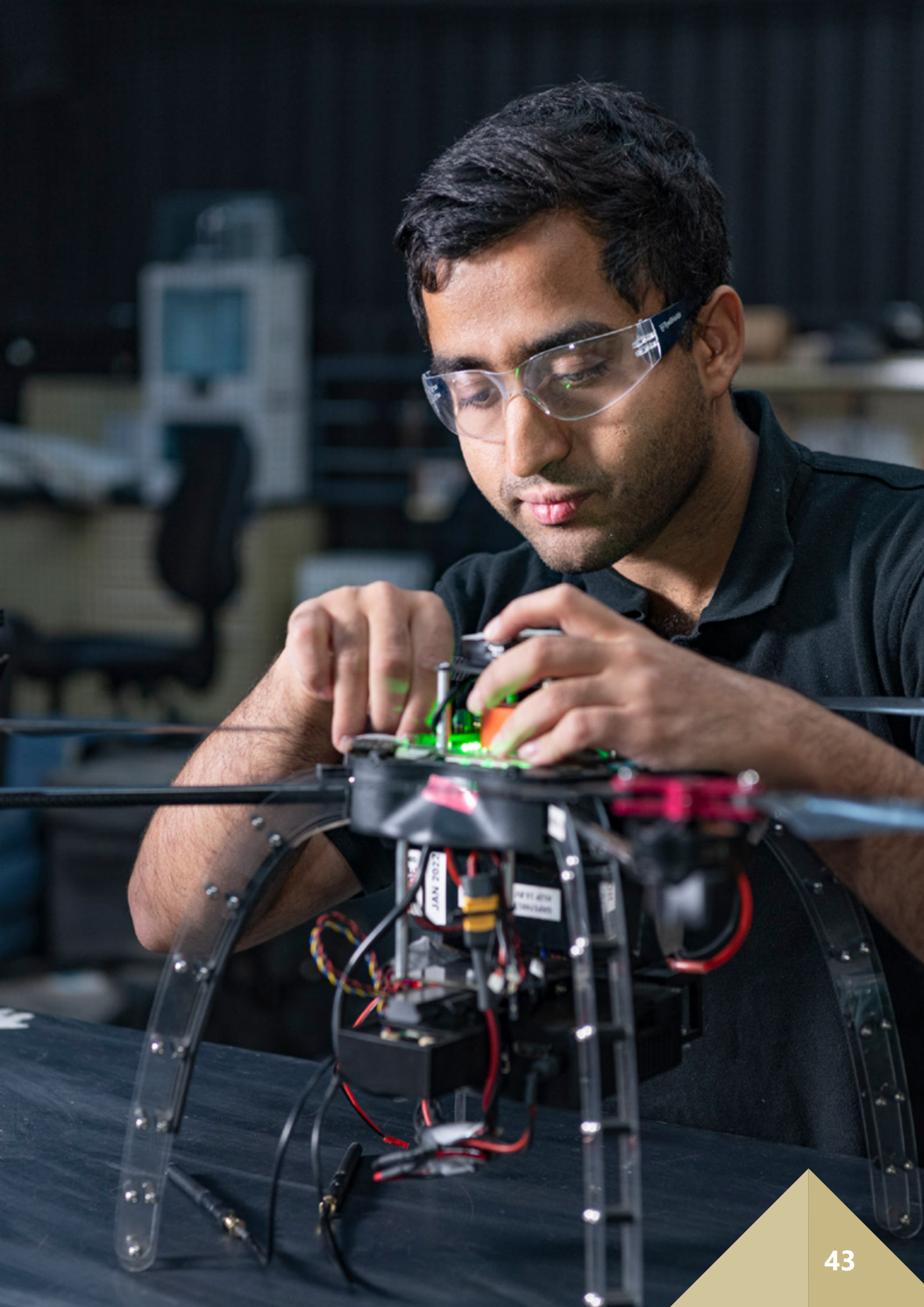
- Platform Structures (Fuselage, Uncrewed Surface Vessel hull etc)
- Propulsion (Motors and Engines)
- Energy Systems (Fuel and Batteries, including Hybrid power trains)
- Guidance and Control (including Autopilots, Global Navigation Satellite Systems and other navigation aids)
- Payloads (including electro-optical, Radio-Frequency and Kinetic payloads*)
- Command, Control and Communication Systems, Common Control Systems and datalinks
- Autonomy hardware and software

*Standardised kinetic payloads for Uncrewed Systems are being developed through the Guided Weapons and Explosive Ordinance Group under Sovereign Defence Industrial Priority 4 – Domestic manufacture of guided weapons, explosive ordnance and munitions.

Capability element sub-components relevant to this Sovereign Defence Industrial Priority may also be addressed in other Sovereign Defence Industrial Priorities. Sovereign Defence Industrial Priority 5 cross-referenced capability element sub components include the following:

- Sovereign Defence Industrial Priority 3 - Deployable Counter-Small Uncrewed Aerial system; and
- Sovereign Defence Industrial Priority 3 - Deployable Small Uncrewed Aerial Systems.

Further guidance on priority areas and associated industry capability against the autonomous systems common taxonomy in the range of 1 to 10 years, with a particular focus on the first five years, is set out in the tables below.



INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Platform	• *Manufacture* › *Plastics and composites*	Guide	Guide	Guide
Propulsion - BLDC Motors	• *Manufacture* › *BLDC motor*	Achieved	Achieved	Monitor
Energy Systems	• *Manufacture* › *Battery*	Achieved	Achieved	Monitor
Guidance and Control	• *Products and systems* › *Position, Navigation and Timing* › *GPS-denied navigation, e.g. UVDAR*	Grow	Guide	Guide
Payloads	• *Products and systems* › *sensors* › *loitering munitions (GWEO)*	Grow	Grow	Guide
C3 Systems	• *Products and systems* › *Global planning and teaming*	Grow	Grow	Guide
Autonomy hardware and software	• *Specialist processes* › *open system architecture, e.g. GRA* • *Products and systems* › *detection and perception systems* • *Manufacture* › *software development - digital twins*	Grow	Grow	Monitor

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	Grow	Guide	Guide	Guide	Guide	Guide
Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Guide	Guide	Guide	Guide	Guide	Guide	Guide
Guide	Guide	Guide	Guide	Guide	Guide	Guide
Guide	Guide	Guide	Guide	Guide	Guide	Guide
Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor

Sovereign Defence Industrial Priority 6

Integration and enhancement of battlespace awareness and management systems

Strategic context

The Defence Strategic Review highlighted the criticality of;

a. an enhanced, integrated targeting capability;

b. a networked expeditionary air operations capability;

c. an enhanced all-domain, integrated air and missile defence capability, and

d. a theatre command and control framework that enables an enhanced Integrated Force.

Battlespace awareness is required at the strategic, operational and tactical levels of command and control across maritime, land, air, space and cyber domains, and the electromagnetic spectrum, from seabed to space. Government is investing in the targeting systems and processes required for advanced and long-range weapons, undersea warfare, and integrated air and missile defence.

The size of the Australian theatre means advanced sensors, capable of long-range monitoring and detection, and long-haul communications (such as very low frequency, high frequency or satellite communications), are especially valuable across all domains. These also support a focused-force approach seeking to provide long-range precision strike, undersea warfare and integrated air and missile defence.

The continued development and integration of electromagnetic warfare capabilities that can protect the ADF's electronic capabilities from being interfered with, for instance through electromagnetic effects and can enable the ADF to locate and degrade or disrupt a potential adversary's electronic signals are critical capabilities to enable the ADF.

Providing an effective, resilient and secure flow of information across Defence enables both efficient operation of current capabilities, and an important backbone for the rapid integration of new capabilities and innovations.

Current state

Defence is currently working with selected industry partners to develop and maintain:

- A digitally capable, security-cleared and specialised workforce skilled in software development, engineering, information technology, cyberworthiness and data science.
- Advanced active and passive sensors, electronics and systems engineering, including improved data and sensor fusion and assured position, navigation and timing.
- Secure and cyberworthy infrastructure that supports working in an appropriately classified environment.
- Supply chains for key capabilities that are frequently fine-tuned to reduce the risk of security compromise of hardware or intellectual property, and are resilient to international supply chain disruptions.

Detailed Sovereign Defence Industrial Priorities narrative and target tables

Battlespace awareness and management comprise multiple systems, and systems-of-systems, rather than a single homogenous ADF system. Sovereign Defence Industrial Priority 6 is based on a taxonomy for the generic needs of battlespace awareness and management systems at different stages in their capability lifecycles, rather than being specific to a single system or project.

Capability element sub-components include:

- Sensors and effectors
- Communication systems – (hardware and software)
- Networks (physical and logical components)
- Communications security

- Integration
- Interoperability
- Battlespace Management Systems, Combat Management Systems, Integrated Air and Missile Defence Systems, Air Operations Systems and Airborne Early Warning and Control Systems
- Targeting Enterprise - Localisation, Classification, Targeting – Theatre Command and Control, and Electronic Warfare
- Electronic Warfare

Several enabling capabilities underpin the Sovereign Defence Industrial Priority industrial capabilities for battlespace awareness and management. Integration skills at a systems of systems level are necessary in industry to ensure assurance against Defence requirements/certification standards and to allow the Defence to verify interoperability with key partners and allies. Skills in areas such as cyberworthiness accreditation can enhance achievement of speed to capability

Capability element Sub-components relevant to this Sovereign Defence Industrial Priority may also be addressed in other Sovereign Defence Industrial Priorities. Sovereign Defence Industrial Priority 6 cross-referenced capability element sub components include the following:

- Sovereign Defence Industrial Priority 2 – Naval Combat Systems (Surface and Sub-Surface)

Further guidance on priority areas currently, in the range of 1 to 10 years, with a particular focus on the first five years, is set out in the table below.

Sensors (including the physical sensors and associated signal processing algorithms)

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Phased Array Radar	• *Products and systems* › *RF components* › *Electronics* • *Manufacture* › *Software development – signal processing* › *Software development and coding*	Grow	Grow	Grow
OTHR (Jorn)	• *Facilities – general* • *Products and systems* › *HF Radar components* › *Electronics* • *Manufacture* › *Software development – signal processing* › *Software development and coding*	Guide	Grow	Grow
Acoustic – permanent sensors vs disposable	• *Products and systems* › *Ceramic components* › *Electronics* • *Manufacture* › *Software development – signal processing* › *Software development and coding*	Monitor	Monitor	Monitor
Electro-optic/infra-red/ ultra violet/hyperspectral	• *Products and systems* › *Ceramic components* › *Sensors* • *Manufacture* › *Software development – signal processing* › *Software development and coding*	Monitor	Monitor	No Action

UHF/VHF Receivers

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Land Tactical Radios	• *Products and systems* › *Electronics* • *Manufacture* › *Software development*	Grow	Grow	Grow

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Grow	Grow	Grow	Grow	Grow	Grow	Grow
Monitor	Guide	Monitor	Monitor	Guide	Guide	Guide
Monitor	Monitor	Monitor	Monitor	Guide	Guide	Guide
No Action	No Action	Guide	Guide	Guide	Guide	Guide

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Grow	Grow	Grow	Grow	Grow	Grow	Grow

SATCOM

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Satellite Communications – Wideband Tactical Terminals	• *Grow (manufacture, assembly, ruggedisation, sustainment)* • *RF engineering* • *RF components (BUC/BDC/SSPA)* • *Manufacturing* › *Terminal and components/spares* • *Systems integration (platforms, networks)* • *Antennae development* • *Control systems* • *Circuit cards* • *Software*	Monitor	Monitor	Monitor
Satellite Communications – Narrowband Tactical Terminals	• *Systems integration (platforms, networks)* • *Testing* • *Crypto enablement* • *Certification* • *Sustainment*	No Action	No Action	No Action
Satellite Operations - Ground Systems	• *Antennas* • *Integration* • *Software* • *Networks (physical and logical components)* • *Security* • *Interoperability* • *Cyber operations* • *Gateway/Site sustainment* • *Operations* • *Interface control* • *Service assurance* • *Integration with ADF ground/control* • *Resilience planning*	No Action	Monitor	Monitor
Satellite Communications – Protected	• *Interface control* • *Service assurance* • *Integration with ADF ground/control* • *Resilience planning* • *Systems integration (platforms, networks)* • *Handling implications of International Traffic in Arms Regulations control*	No Action	No Action	No Action
Positioning, Navigation, and Timing (PNT)	• *Interface control* • *Service assurance* • *Integration with ADF ground/control* • *Systems integration (platforms, networks)* • *Security* • *Interoperability* • *Cyber operations* • *Adaptation*	Monitor	Monitor	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	Guide	Guide	Guide	Guide	Guide	Guide
No Action	No Action	No Action	Guide	Guide	Guide	Guide
Guide	Monitor	Guide	Guide	Guide	Guide	Guide
No Action	No Action	No Action	Guide	Guide	Guide	Guide
Guide	No Action	Guide	Guide	Guide	Guide	Guide

Networks – physical and logical components

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Network bridging / Translation engine - physical	• *Manufacture software* › *development and coding* › *development – architecture* • *Systems Engineering* › *Design* › *Software defined networking* › *Mesh networking*	No Action	Guide	No Action
Information exchange through communities of interest - logical	• *Manufacture software* › *development and coding* › *development – architecture*	No Action	Guide	No Action
Data centres (ICT) including Cloud Computing	• *Facilities – general and utilities* • *Products and systems* › *Computing hardware* › *Deployed data centres* • *Maintenance* › *System monitoring* › *Planned and corrective*	No Action	No Action	No Action
Network management	• *Manufacture software* › *development and coding* › *development – architecture*	No Action	No Action	No Action
Multi-level security cross-domain solutions	• *Manufacture software* › *development and coding* › *development – architecture*	No Action	No Action	No Action
Bearers	• *Products and Systems – electronics* • *Manufacture software* › *development and coding* › *development – architecture waveform development* › *Waveform based security development* › *Network management system development*	No Action	No Action	No Action

Line of sight networking

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Optical line of sight	• *Products and systems* › *Optical/Laser point to point components* › *Laser mounting and tracking systems* › *On the move tracking*	Grow	Grow	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	Guide	Guide	Guide	Guide	Guide	Guide
Guide	Guide	Guide	Guide	Guide	Guide	Guide
No Action	No Action	Grow	Grow	Grow	Grow	Grow
No Action	Guide	Guide	Guide	Guide	Guide	Guide
No Action	Guide	Guide	Guide	Guide	Guide	Guide
Guide	No Action	Guide	No Action	Guide	Guide	Guide

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
No Action	No Action	No Action	No Action	No Action	No Action	No Action

HF

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	Industrial Capability	Research	Technological Innovation	Development and Industrialisation
Ground Stations	• *Facilities – general and utilities* • *Products and systems* › *Electronics* › *Power systems* • *Manufacture software* › *Software development Antennas* › *Waveform development* › *Waveform based security development*	No Action	No Action	No Action
Radios	• *Products and systems – electronics* • *Manufacture – software development*	No Action	No Action	No Action

VLF

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	Industrial Capability	Research	Technological Innovation	Development and Industrialisation
Transmission Stations	• *Facilities – general and utilities* • *Products and systems* › *Antennas* › *Power systems* › *Cooling systems* • *Manufacture software* › *Waveform development* › *Waveform based security development*	No Action	No Action	No Action
Receivers	• *Products and systems* › *Electronics* • *Manufacture* › *Software development*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	No Action	Guide	Guide	Guide	Guide	Guide
Guide	No Action	Guide	No Action	Guide	Guide	Guide

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	No Action	Guide	No Action	Guide	Guide	Guide
Guide	No Action	Guide	No Action	Guide	Guide	Guide

Communications/Cyber Security capabilities

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Encryption Systems	• *Manufacture* › *Software development* › *Software encryption key development* • *Products and systems* › *Software electronics*	No Action	No Action	No Action
Cyber Security Operations and Data (including Defence Cyber Operations)	• *Security Operations Centre services* • *Security Information and Event Management engineering* • *Data analytics* • *Threat intelligence* • *Incident detection and response* • *Red/Blue/Purple teaming* • *Integration with existing and new Defence ICT capabilities and initiatives* • *Suitability for deployed and/or disconnected environments* • *Integration and configuration of Commercial off the shelf and Military off the shelf solutions aligned to Defence approved standards and reference architectures*	Guide	Grow	No Action
Post Quantum Cryptography (PQC)	• *PQC algorithm implementation* • *Crypto agile architecture* • *Public Key Infrastructure and cert lifecycle for PQC* • *PQC-ready Hardware Security Module* • *Crypto inventory and migration tooling*	Monitor	Monitor	Monitor

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	No Action	No Action	Guide	Guide	Guide	Guide
Grow	Monitor	No Action	Grow	Grow	Grow	Grow
Grow	No Action	No Action	Grow	Grow	Grow	Grow

Battlespace Management Systems/Combat Management Systems/ Air Defence Systems/AEW (processing hardware and software)

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Land BMS (Mounted and Dismounted)	• *Manufacturing* › *Software development* • *Products and systems* › *Electronics* • *Engineering* › *Design* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming* • *Specialist Processes/Tools* › *Spectrum management*	No Action	No Action	Guide
IAMD Systems (Tactical and Strategic)	• *Manufacturing* › *Software development* • *Products and systems* › *Electronics* • *Engineering* › *Design* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming* • *Specialist Processes/Tools* › *Spectrum management*	Guide	Guide	No Action
Air Operations	• *Manufacturing* › *Software development* • *Products and systems* › *Electronics* • *Engineering* › *Design* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming* • *Specialist Processes/Tools* › *Spectrum management*	No Action	No Action	No Action
Air Traffic Management	• *Manufacturing* › *Software development* • *Products and systems* › *Electronics* • *Engineering* › *Design* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming* • *Specialist Processes/Tools* › *Spectrum management*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
Guide	Guide	Guide	Guide	Guide	Guide	Guide
Guide	No Action	No Action	Guide	Guide	Guide	Guide
No Action	No Action	No Action	Guide	Guide	Guide	Guide
No Action	Guide	Guide	Guide	Guide	Guide	Guide

Battlespace Management Systems/Combat Management Systems/ Air Defence Systems/AEW (processing hardware and software)

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Air Combat	• *Manufacturing* › *Software development* • *Products and systems* › *Electronics* • *Engineering* › *Design* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming* • *Specialist Processes/Tools* › *Spectrum management*	No Action	No Action	No Action
Airborne Early Warning and Control	• *Manufacturing* › *Software development* • *Products and systems* › *Electronics* • *Engineering* › *Design* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming* • *Specialist Processes/Tools* › *Spectrum management*	Guide	Guide	No Action
Theatre Command and Control	• *Manufacturing* › *Software development* • *Products and systems* › *Electronics* › *Position, Navigation and Timing Situational Awareness and GPS interference and geolocation* • *Engineering* › *Design* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming* • *Specialist Processes/Tools* › *Spectrum Management* › *Position, Navigation and Timing Situational Awareness*	No Action	Guide	No Action
Logistics Operations	• *Manufacturing* › *Software development* • *Products and systems* › *Electronics* • *Engineering* › *Design* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming*	Monitor	Monitor	Monitor

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
No Action	No Action	No Action	No Action	Guide	Guide	Guide
No Action	No Action	No Action	Guide	Guide	Guide	Guide
No Action	No Action	No Action	Guide	Guide	Guide	Guide
Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor

Localisation, Classification and Targeting (battlespace level)

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
Data collection capabilities	• *Products and systems* › *Cyber* › *Air* › *Space*	No Action	No Action	No Action
Feature and Target extraction	• *Manufacturing* › *software development* • *Specialist Processes/Tools* › *Algorithms*	No Action	No Action	No Action
Classification Signature databases	• *Manufacturing* › *software development* • *Specialist Processes/Tools* › *Algorithms* › *Database design* › *Records management* › *Dissemination*	No Action	No Action	No Action
Decision Aids and AI tools	• *Manufacturing* › *software development* • *Specialist Processes/Tools* › *Data analytics* • *Products and systems* › *AI engines/Machine Learning*	Guide	Guide	No Action
Enterprise Timing and Position, Navigation and Timing Assurance	• *Timesync engineering (PTP/NTP)* • *secure key and crypto for time validation* • *Global Navigation Satellite System/ altPNT integration and antispoofing analytics* • *Network design for time distribution (grandmasters, boundary clocks)* • *Security Operations Centre/Network Operations Centre playbooks and monitoring*	Guide	Grow	Grow

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
No Action	No Action	No Action	Guide	Guide	Guide	Guide
No Action	No Action	No Action	Guide	Guide	Guide	Guide
Guide	No Action	No Action	Guide	Guide	Guide	Guide
Guide	No Action	No Action	Guide	Guide	Guide	Guide
Guide	No Action	No Action	Grow	Grow	Grow	Guide

Electronic Warfare (EW)

INDUSTRIAL CAPABILITY LIFECYCLE		DESIGN		
Capability Element Sub-Components	**Industrial Capability**	**Research**	**Technological Innovation**	**Development and Industrialisation**
EW Sensors	• *Products and systems* › *Electronics* • *Engineering* › *RF Design* › *Systems integration* • *Manufacturing* › *Software development* › *Hardware*	Note sensitivity in assessing this Capability Element	No Action	No Action
EW Effectors	• *Products and systems* • *Engineering* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming* • *Manufacturing* › *Software development (signals development)* › *Hardware development*	Note sensitivity in assessing this Capability Element	No Action	No Action
EW BMS	• *Products and systems – BMS* • *Engineering* › *Systems integration* • *Manufacturing* › *Software Development*	No Action	No Action	No Action
Electromagnetic Support Measures	• *Products and systems* • *Specialist Processes* › *Signals analysis* › *Database Management* • *Engineering* › *Systems integration* • *Maintenance/Upgrade* › *Reprogramming*	No Action	No Action	No Action
Electromagnetic Countermeasures	• *Products and systems* • *Engineering* › *Systems integration* • *Manufacturing* › *Software development* › *Hardware*	No Action	No Action	No Action

DESIGN	BUILD			IN SERVICE		
Adaptation	**Manufacturing**	**Assembly**	**Integration and Commissioning**	**Operational Support**	**Fault Diagnosis and Repair**	**Maintenance**
No Action	No Action	No Action	No Action	No Action	No Action	No Action
No Action	No Action	No Action	No Action	No Action	No Action	No Action
Guide	No Action	No Action	Guide	Guide	Guide	Guide
Guide	No Action	No Action	Guide	Guide	Guide	Guide
Guide	No Action	No Action	Guide	Guide	Guide	Guide

Sovereign Defence Industrial Priority 7

Test and evaluation, certification and systems assurance

Strategic context

Current state

Test and evaluation, certification and systems assurance plays a critical role in ensuring compliance of system designs, technical configurations and materiel integrity. Test and evaluation, certification and systems assurance is essential in all elements of the capability life cycle, encompassing testing, evaluating, certifying and ultimately, assuring the performance of systems against functional requirements. It provides Defence with assurance that capabilities are fit-for-purpose, safe, and operationally viable through the provision of objective evidence to quantify the risks of new technologies, concepts and capabilities on warfighting operations.

Test and evaluation, certification and systems assurance consists of three core functions.

- Test and evaluation is the set of systematic processes to gather objective data on a system's performance, identifying risks and confirming it meets functional requirements.
- Certification is the formal determination that the system meets specified standards.
- Systems Assurance ensures regulatory compliance and assurance that the system both meets technical integrity (quality, reliability, and safety) standards and environmental compliance.

Test and evaluation and certification are enablers for Systems Assurance, providing objective data that supports the assurance process. Test and evaluation and certification processes often involve integrating Intellectual Property from many sources, requiring data stewardship and safeguarding that must be maintained over decades.

Industry entities that are producing defence materiel must invest into test and evaluation processes and resources to verify and validate systems during development, as well as to establish a foundation of objective data that supports ongoing test and evaluation, certification and systems assurance throughout the life of the system.

Test and evaluation, certification and systems assurance is a fundamental requirement to all stages of the industry lifecycle. In the early stages of development, technology innovation and industrialisation, consideration should be given to undertaking preview and developmental test and evaluation to substantiate performance, security and safety use cases.

During the build phase (manufacturing, assembly, integration and commissioning), acceptance test and evaluation is managed between respective delivery agencies and suppliers. These projects all have inherent test and evaluation, certification and systems assurance requirements that need to be met by the associated contractors, as well as specialist (independent) roles for industry.

Operational support and maintenance lifecycle stages require operational test and evaluation support and ongoing assurance and certification. As many capabilities have long operational lives, maintaining data integrity is critical with adherence to the FAIR data principles (Findable, Accessible, Interoperable and Reusable) the standard required.

The capacity of our sovereign defence industry to undertake test and evaluation, certification and systems assurance activities for the systems it produces is key to Australia's defence strategy.

Demonstrated capacity to undertake test and evaluation and certification activities in support of Systems Assurance is a vital characteristic of a capable sovereign defence industry. The Government requires sovereign industry support to test and evaluate, certify, and assure that enhanced force-in-being systems and platforms are safe and effective in their own right, as well as being able to integrate with other platforms and enabling systems to the degree required to deliver a fully integrated, effective, and assured joint force.

This outcome demands a lifting of skills and capacity for test and evaluation, certification and systems assurance, leading to assurance in Australia's ability to integrate foreign sourced and locally produced defence materiel, and to conduct force-level testing of complex systems of systems required to achieve joint missions.

Australia's geostrategic circumstances demand adaptation and enhancement of test and evaluation, certification and systems assurance resources and processes.

Test and evaluation, certification and systems assurance activities must align with Integrated Investment Program biennial cycle capability targets and support speed to capability. They must promote integration of the force and the conduct of a spiral development approach to the introduction of capabilities. They must exploit the use of synthetic approaches to systems engineering where it makes sense to do so, including where there are constraints in physical testing. Additionally, they must take advantage of advanced technologies and develop suitable approaches to test and evaluation for systems that involve advanced technologies.

Detailed Sovereign Defence Industrial Priorities narrative

In addition to the information set out below, capability element sub components relevant to this Sovereign Defence Industrial Priority may also be addressed in other Sovereign Defence Industrial Priorities. No Sovereign Defence Industrial Priority 7 cross-referenced capability element sub-components have been identified at this time.

A skilled and experienced workforce is fundamental to the effective conduct of test and evaluation, certification and systems assurance activities. While there are test and evaluation, certification and systems assurance workforce capabilities resident within Defence and industry, they will need to grow to service increasing demands.

This increase can be attributed both to the increasing number and complexity of systems that the Government is acquiring and sustaining, as well as the introduction of technologies that are new to Defence (for example, nuclear power, autonomy, artificial intelligence, additive manufacturing).

The workforce requirements comprise the ability to undertake typical test and evaluation activities such as preview, developmental, acquisition, and operational test and evaluation, either by qualified Defence or industry personnel.

The Government is investing in test and evaluation, certification and systems assurance-related training to increase the pool of knowledgeable practitioners across the Defence and industry, both at the foundational level and as specialists in areas where Defence has unique requirements and capability gaps. This imperative will complement the Defence Industry Skilling and Science, Technology, Engineering and Mathematics Strategy by anticipating future test and evaluation, certification and systems assurance workforce skills and experience ahead of need.

Responsibilities for certification and assurance of system reside with the Commonwealth. However, the Government is prioritising support for an industry-delivered program to grow, upskill and certify the cohort of Commonwealth test and evaluation, certification and systems assurance practitioners. Defence's goal is to work with industry to build the currency and competency of this cohort, based on Defence's assurance and certification requirements.

An effective test and evaluation, certification and systems assurance environment is also dependent upon an appropriate balance between consistency of processes and the unique requirements of each domain. This will be achieved by establishing a concrete training regime, in accordance with the Test and Evaluation Manual (which will evolve to articulate and standardise test and evaluation, certification and systems assurance activities that are performed in the Defence Capability System).

Test and evaluation, certification and systems assurance training initiatives will develop both the Defence and industry workforce capabilities. Consistency of standards and training certification in accordance with Defence-endorsed standards are also required.

Communities of practice will be created to support test and evaluation, certification and systems assurance knowledge creation and cross functional collaboration. Initiatives such as the annual Test and Evaluation Conference, the Test and Evaluation Specialist Support Centre, the Test and Evaluation Advisory Board, and the Digital Engineering Knowledge Hub will provide a mechanism for industry-interaction and relationships building with defence.

Novel processes, tests and technologies

Evolving test and evaluation, certification and systems assurance practices will continue to improve synthetic environments, autonomous systems, artificial intelligence and cybersecurity. This will result into shorter time to capability realisation as in comparisons to conventional defence systems of delays and long duration.

Test and evaluation, certification and systems assurance practices and tools need to evolve to accommodate rapid, iterative spiral development and upgrade cycles, and to facilitate rather than impeding speed to capability. Government is pursuing many of these under the AUKUS Pillar II umbrella. This creates further challenges considering test and evaluation, certification and systems assurance has different requirements across the three countries.

Government encourages innovation from industry with reference to processes, tests and technologies deployed to timely and cost-effective capability effects. However, to assure this, novel approaches are to be reviewed and certified as valid, reliable and effective against in accordance with Defence technical standards. The data produced by these novel approaches must be governed, for its reusability and auditability.

Developing digital engineering tools and environments requires collaboration with industry, and academia, to accelerate procurement processes and reduce risk. Digital engineering is an integrated digital approach using authoritative sources of systems data and models as a continuum across disciplines to support lifecycle activities from concept through disposal. Used effectively, it provides clarity and shared understanding through the use of digital models and data. In addition, it accelerates capability delivery by providing opportunities to test systems in cases where live testing is not practical, as well as enabling earlier exploration of design options.

Defence's test and evaluation, certification and systems assurance environment will benefit from advances in digital engineering that enable collaborative analysis, simulation, and testing. The 2024 Defence Digital Engineering Strategy identifies an intent to develop network infrastructure, methodologies and security in conjunction with industry and academia.

Expansion in the application of synthetic environments represents an opportunity for industry to build and participate in test and evaluation, certification and systems assurance. Such technology advances – in both the systems being tested and tools used for testing and certification – demand Defence and industry evolve toward an adaptive assurance model in cases where traditional sequential processes are no longer adequate.

Defence's synthetic training and test environments comprise integrated ecosystems allowing for the test and evaluation, certification and systems assurance of emerging capabilities that may be too complex, classified, or dangerous to test in purely physical environments. They can include virtual environments; constructive environments; digital twins; and live, virtual and constructive integration. The ability to access civilian test ranges (physical or synthetic) offers an opportunity for Defence to reduce demand pressures on existing ranges, so long as there are no security or safety restrictions.

Advanced technologies represent a double-edged challenge from a test and evaluation, certification and systems assurance perspective – on one hand, employing new technologies in test and evaluation, certification and systems assurance activities may help to enhance and accelerate outcomes; on the other hand, development and introduction of systems that feature advanced technologies represents a conundrum for traditional test and evaluation, certification and systems assurance processes.

Developing new processes and tools that can be deployed in conjunction with these advanced systems without compromising technical integrity (fitness for purpose, safety and environmental compliance) will be pivotal to Defence.

Data governance and cyber assurance

Data is an essential part of all Defence systems, and especially to test and evaluation, certification and systems assurance, requiring industry support to ensure it meets the needs of Defence.

Assuring this data is accurate, complete, traceable, protected, and reusable allows decision-quality, test and evaluation and certification of system performance across the capability lifecycle.

Defence and industry-generated test data that is collected under well-defined documented conditions and configurations must be supported by standard governance protocols to ensure that test and evaluation data is protected, properly tagged, shareable where appropriate, and suitable for cross-program and cross-service analysis. Similarly, assumptions made during model development shall be declared with clarity around target and validity ranges and its confidence levels.

Cyber assurance is essential for ensuring these mission critical ADF systems are able to safely operate and fulfil mission capabilities. It entails continuous and constant monitoring throughout the entire lifecycle of the equipment, from design to disposal. Depending on the cyber posture, different assurance thresholds might be applied, with the highest standards set for high-value and operationally critical systems.

Ultimately a cyber-assured system is certified to be digitally robust to both complete its mission and withstand attacks. The data used to support that certification must be relevant and traceable. Specific priorities for cyber assurance in the context of test and evaluation, certification and systems assurance are that the synthetic environments that support test and evaluation, digital engineering, modelling, simulation and training, must be secure from cyber threats.

Additionally, these environments increasingly need to include the provision for higher security environments where necessitated by the sensitivity of the systems and limitations on testing in the live environment.

Broader test and evaluation, certification and systems assurance requirements

Given that test and evaluation, certification and systems assurance is essential requirement across the Defence enterprise, it is not feasible to list all requirements for industry support. Specific examples of these can be found in other Sovereign Defence Industrial Priorities. There are, however, a range of requirements that can be distilled down to three common themes.

Delivery support

Defence will need to perform test and evaluation, certification and systems assurance at each phase of the industry lifecycle. While there is significant knowledge and experience within Defence, this is not sufficient to meet Defence's needs.

Further, there may be specific skills that cannot be developed or sustained within Defence. Industry has a long history of supplementing the Defence workforce, supporting test and evaluation activities and generating data to support Certification and System Assurance activities.

Physical ranges and test environments

Defence's physical ranges and test environments encompass instrumented ranges that are equipped with sensors capturing data on platform performance, weapon systems and environmental interactions. Research and laboratory environments provide specialised facilities for materials and fatigue testing (for example, testing the structural integrity and lifecycle of platforms); and specialised facilities (for example, rocket motor test stands, underwater explosive test sites, and electromagnetic compatibility chambers).

These ranges and test environments require the development and calibration of specialised instrumentation to support the testing of systems and collection of that data.

Synthetic environments

Defence's synthetic environments comprise integrated ecosystems allowing for the test and evaluation, certification and systems assurance of emerging capabilities that may be too complex, classified, or dangerous to test in physical environments.

While they cannot completely replace the need for physical environments, they are a cost-effective way to generate much of the data needed. Further they offer the ability to perform test and evaluation that would be difficult to replicate in a real-world environment in a timely manner.

Critically, greater use of synthetic environments will alleviate pressures on the limited physical infrastructure that Defence can access, ensure more efficient use of those ranges and test environments.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