

## Defence White Paper and D+I ePortal Capability Taxonomy Mapping

Paragraph 16.26 of the Defence White Paper 2009 indicated that the Government will monitor a broad range of industry capabilities. Those capabilities listed in the dot points have been duplicated below and the Defence + Industry ePortal Capability Taxonomy categories, items and components that map to these items are listed in the table below. Notable the definitions of the capabilities will correspond with information that will be included in the forthcoming Defence Capability Plan 2009-2019. The category with some notes or specific elements can be read across the three columns with the relative positions showing the relationships. Note that in many cases the activity associated with the capability will be the as important as the capability itself and those that are relevant have been added in their own column on the right. This activity list has also been updated to support the needs of the Defence White Paper.

Any element noted with “\*\*\*\*” is not present on the system at publication of this document but has been identified for inclusion with the release of the taxonomy version 1.6. When this occurs it will be announced as part of a system update release (Release 1.0.6) for the site via the bulletin board information items.

 The main part of this document prints best on A3 paper set to landscape.

White Paper Capability	Descriptions	D+I ePortal Capability Taxonomy Mapping			
		Category(s)	Item(s)	Component(s)	Activity(ies)
'high-end' system and 'systems of systems' integration capabilities, including for EW development, the protection of networks and computers, including in the field of cyber defence, communications security testing services and through-life support of cryptographic equipment, and system life cycle management capabilities to maintain and extend the service life of ADF systems;	<b>'High end' system and 'system of system' integration.</b> Relates to the integration of complex electronic and software systems onboard platforms and to conduct 'system of systems integration' of off-the-shelf capabilities into the broader ADF networks, which is critical to achieving the ADF's network centric warfare goals.	Systems and Software Engineering;  Rapid Prototyping Development and Evaluation (RPDE)	Systems integration and consultancy services to Electronic Systems Division (SO Panel HFMP002)  Network centric warfare (SO Panel RA/001)	Systems integration (SO Panel HFMP002)  Network centric warfare (SO Panel RA/001)	CAD Design & Manufacture Certify and Qualify Design Develop Implement Infrastructure Design & Development Infrastructure Support Services Install/Set to Work Maintain Manufacture/Construct Modify/Adapt Operate Repair Research & Development (inc Research only) Software Development & Support Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support
	<b>Communications security.</b> This capability encompasses emanations security testing, which protects against unintentional emissions from communications and IT equipment, commonly known as Tempest testing, and the provision of support to cryptographic equipment.	Military Electronics  Electronics Engineering	Command, control & communications systems  TEMPEST	Command, control & communications systems  TEMPEST	Design Develop Implement Install/Set to Work Maintain Operate Software Development & Support Supply Technical Support Services Test & Evaluation Through-life Support

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	<p><b>Electronic Warfare.</b> These industrial capabilities include Electronic Warfare (EW) counter-measures development and validation, EW re-programming, system integration and 'tuning' of overseas developed EW systems to meet our operational needs, the management of threat libraries and, importantly, selective strategic product development to maintain high-end EW knowledge and capability.</p>	Electronic Warfare and Radar	Electro optic electronic warfare Electronic warfare capability support (SO Panel SO03/8-03/15) Electronic warfare system integration Radio frequency electronic warfare Tactical radar Phased array radar Electronic Protection	Electro optic electronic warfare Electronic warfare capability support (SO Panel SO03/8-03/15) Electronic warfare system integration Radio frequency electronic warfare Tactical radar Phased array radar Electronic Protection	CAD Design & Manufacture Certify and Qualify Design Develop Implement Infrastructure Design & Development Infrastructure Support Services Install/Set to Work Maintain Manufacture/Construct Modify/Adapt Operate Repair Research & Development (inc Research only) Software Development & Support, Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support
		Maritime Operations	Undersea weapons & countermeasures	Undersea weapons & countermeasures	Operate Repair
		Systems and Software Engineering	Systems integration and consultancy services to Electronic Systems Division (SO Panel HFMP002)	Systems integration (SO Panel HFMP002)	Research & Development (inc Research only) Software Development & Support, Supply Systems Definition Systems Integration
		IT Applications	Systems	Systems	Technical Support Services Test & Evaluation Through-life Support
	<p><b>Protection of networks, computers and information including in the field of cyber defence.</b> These capabilities safeguard ADF information, through the incorporation of encryption techniques, firewalls, anti-virus software and anti-tampering capabilities and devices.</p>	IT Applications	Security System	Security System	CAD Design & Manufacture Certify and Qualify Design Develop Implement Infrastructure Design & Development Infrastructure Support Services Install/Set to Work Maintain Manufacture/Construct Modify/Adapt Operate Repair Research & Development (inc Research only) Software Development & Support, Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support
		IT Infrastructure	Networks & data links Systems hardware (incl. servers, mass storage & protection)	Networks & data links Systems hardware (incl. servers, mass storage & protection) Server Cabinets and Storage Units ***	Develop Implement Infrastructure Design & Development Infrastructure Support Services Install/Set to Work Maintain Manufacture/Construct Modify/Adapt Operate Repair Research & Development (inc Research only) Software Development & Support, Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support

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	<p><b>System life cycle management.</b> These capabilities extend the service life of ADF systems by undertaking active life management, including life extension, fatigue management and the development of novel repair techniques.</p>	<p>Platform Engineering</p> <p>Air Vehicles</p> <p>Aircraft &amp; Associated Equipment</p>	<p>Aerospace systems Avionics systems Naval architecture</p> <p>Aircraft structural integrity</p> <p>Structural integrity engineering (SO Panel AF 9604-037-62)</p>	<p>Aerospace systems Avionics systems Naval architecture</p> <p>Aircraft structural integrity</p> <p>Structural integrity engineering (SO Panel AF 9604-037-62)</p>	<p>CAD Design &amp; Manufacture</p> <p>Certify &amp; Qualify</p> <p>Design</p> <p>Develop</p> <p>Implement</p> <p>Infrastructure Design &amp; Development</p> <p>Infrastructure Support Services</p> <p>Install/Set to Work</p> <p>Maintain</p> <p>Manage Obsolescence</p> <p>Manufacture/Construct</p> <p>Modify/Adapt</p> <p>Operate</p> <p>Repair</p> <p>Research &amp; Development (inc Research only)</p> <p>Software Development &amp; Support,</p> <p>Supply</p> <p>Systems Definition</p> <p>Systems Integration</p> <p>Technical Support Services</p> <p>Test &amp; Evaluation</p> <p>Through-life Support</p> <p>Training Systems</p> <p>Warehouse &amp; Store</p>
<p>the repair, maintenance and upgrade of rotary- and fixed-wing aircraft.</p>	<p><b>Rotary and fixed wing aircraft.</b> These capabilities relate to the ability to provide repair and maintenance services to maintain operational availability of military aircraft and undertake some selected upgrade, overhaul and rebuild activities.</p>	<p>Aircraft &amp; Associated Equipment</p> <p>Military Training Equipment (Training Aids &amp; Devices)</p>	<p>Combat aircraft, fixed wing Combat aircraft, rotary wing</p> <p>Maintenance Training Devices</p>	<p>Combat aircraft, fixed wing Combat aircraft, rotary wing</p> <p>Rotary Wing Fixed Wing</p>	<p>Maintain</p> <p>Manage obsolescence</p> <p>Manufacture/Construct</p> <p>Model &amp; Simulate</p> <p>Modify/Adapt</p> <p>Operate</p> <p>Repair</p> <p>Through-life Support</p> <p>Training Systems</p>



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	<p><b>Submarines.</b> This capability includes specialist submarine design knowledge to enable Australia to be a smart buyer and the capabilities to enable construction of the future submarine in Australia. While Australia will not design a submarine from scratch, the ability to adapt an overseas design, or utilise 'best of breed' technologies to meet Australian requirements will be critical to the development of an effective submarine capability. There is also a repair and maintenance capability to maintain operational availability of submarines and to undertake some selected upgrade, overhaul and rebuild activities.</p>	<p>Vessels of War &amp; Special Naval Equipment</p> <p>Platform Engineering</p>	<p>Submarines</p> <p>Naval architecture</p>	<p>Submarines</p> <p>Naval architecture</p>	<p>Assemble</p> <p>CAD Design &amp; Manufacture</p> <p>Certify &amp; Qualify</p> <p>Design</p> <p>Develop</p> <p>Implement</p> <p>Infrastructure Design &amp; Development</p> <p>Infrastructure Support Services</p> <p>Install/Set to Work</p> <p>Maintain</p> <p>Manage Obsolescence</p> <p>Manufacture/Construct</p> <p>Modify/Adapt</p> <p>Operate</p> <p>Repair</p> <p>Supply</p> <p>Systems Definition</p> <p>Systems Integration</p> <p>Technical Support Services</p> <p>Test &amp; Evaluation</p> <p>Through-life Support</p> <p>Training Systems</p>
	<p><b>Acoustics technologies and systems.</b> This capability includes the world class capabilities Australia has in the development and through-life support of underwater acoustic systems.</p>	<p>Military Electronics</p> <p>Maritime Platforms</p> <p>Maritime Operations</p> <p>Platform Engineering</p>	<p>Underwater acoustic active &amp; passive counter measures &amp; counter-counter measures</p> <p>Underwater sound equipment for active &amp; passive detection, tracking, &amp; weapons control equipment</p> <p>Platform survivability &amp; signatures</p> <p>Undersea weapons &amp; countermeasures</p> <p>Electronic warfare self protection – maritime</p> <p>Submarine systems</p> <p>Sonar</p>	<p>Underwater acoustic active &amp; passive counter measures &amp; counter-counter measures</p> <p>Underwater sound equipment for active &amp; passive detection, tracking, &amp; weapons control equipment</p> <p>Platform survivability &amp; signatures</p> <p>Undersea weapons &amp; countermeasures</p> <p>Electronic warfare self protection – maritime</p> <p>Submarine systems</p> <p>Sonar</p>	<p>Assemble</p> <p>CAD Design &amp; Manufacture</p> <p>Certify &amp; Qualify</p> <p>Design</p> <p>Develop</p> <p>Implement</p> <p>Install/Set to Work</p> <p>Maintain</p> <p>Manage Obsolescence</p> <p>Manufacture/Construct</p> <p>Modify/Adapt</p> <p>Operate</p> <p>Repair</p> <p>Supply</p> <p>Systems Definition</p> <p>Systems Integration</p> <p>Technical Support Services</p> <p>Test &amp; Evaluation</p> <p>Through-life Support</p> <p>Training Systems</p>

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development, repair and precision machining of composite and exotic materials, signature management capabilities and coatings, and anti-tampering capabilities;	<b>Composite and exotic materials.</b> This is the ability to repair specialist alloys and composite materials, to develop new repair techniques and to undertake precision machining of such materials.	Composite & Exotic Materials	Composite Materials  Specialised Alloys Other exotic Materials	Non metallic composites Metallic Composites Mixed Composites Specialised Alloys Other exotic Materials	CAD Design & Manufacture Design Develop Implement Install/Set to Work Maintain Manufacture/Construct Modify/Adapt Repair Supply Technical Support Services Test & Evaluation Through-life Support
	<b>Signature management.</b> Includes the capabilities and coatings used for signature management on submarines, naval vessels, land and air platforms including sound minimisation, radar absorbent materials, infrared absorbent paint and materials, and other stealth technologies.	Construction Stores  Electronic Warfare and Radar	Paints  Electronic Protection	Infrared absorbing paint ***  Electronic Protection	Assemble CAD Design & Manufacture Certify & Qualify Design Develop Implement Install/Set to Work Maintain Manage Obsolescence Manufacture/Construct Model & Simulate Modify/Adapt Operate Repair Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support Training Systems

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	<b>Anti-tampering capabilities.</b> These capabilities are incorporated into components or systems to prevent the unauthorised opening of the system, access to the internal workings or Intellectual Property.	Anti Tampering Devices	Electronic Mechanical Munition based Devices Software / cryptology	Electronic Mechanical Munition based Devices Software / cryptology	Assemble Certify & Qualify Design Develop Implement Install/Set to Work Maintain Manage Obsolescence Manufacture/Construct Modify/Adapt Operate Repair Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support
repair and maintenance of armoured vehicles;	<b>Armoured vehicles.</b> This capability relates to the repair, maintenance and some upgrades of specialist military vehicles including tanks and armoured personnel carriers.	Tanks & Military Vehicles	Military armoured vehicles	Military armoured vehicles	Assemble CAD Design & Manufacture Certify & Qualify Design Develop Implement Install/Set to Work Maintain Manage Obsolescence Manufacture/Construct Model & Simulate Modify/Adapt Operate Repair Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support Training Systems

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the ability to produce selected ballistic munitions and explosives; repair, maintain, test and evaluate guided weapons; repair, maintain and upgrade capabilities in relation to infantry weapons, small arms and remote weapons stations on combat vehicles;	<b>Selected ballistic munitions and explosives.</b> This capability relates to the manufacture of some high usage munitions, ammunition components, propellants and explosives.	Bombs, Torpedoes, Rockets, Missiles, Other Explosive Devices & Launch Systems	Rockets Bombs Grenades Torpedoes Smoke canisters Depth charges Naval mines Demolition charges, devices and kits Blasting caps Guided missiles including explosive warheads Anti-missile systems Pyrotechnic devices Fire and incendiary bombs Cartridges (various calibres, uses) Explosives activation, control, detection, handling, jamming, laying, powering, sweeping, powering, launching, laying, discharging, decoying, detonation equipment. Weapon sights Launch and delivery systems	Rockets Bombs Grenades Torpedoes Smoke canisters Depth charges Naval mines Demolition charges, devices and kits Blasting caps Guided missiles including explosive warheads Anti-missile systems Pyrotechnic devices Fire and incendiary bombs Cartridges (various calibres, uses) Explosives activation, control, detection, handling, jamming, laying, powering, sweeping, powering, launching, laying, discharging, decoying, detonation equipment. Weapon sights Launch and delivery systems	Assemble CAD Design & Manufacture Certify & Qualify Design Develop Implement Infrastructure Design & Development Infrastructure Support Services Install/Set to Work Maintain Manage Obsolescence Manufacture/Construct Model & Simulate Modify/Adapt Operate Repair Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support
	<b>Through-life support of guided weapons.</b> This capability involves the inspection, repair, maintenance and testing of missiles and guided weapons to ensure that they are in working order and safe to use.	Weapons Engineering	Guided weapons engineering	Guided weapons engineering	Certify & Qualify Implement Infrastructure Support Services Maintain Manage Obsolescence Modify/Adapt Repair Supply Test & Evaluation Through-life Support

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	<b>Infantry weapons and remote weapons stations.</b> This capability is the provision of the required level of support to the ADF direct fire weapon fleets (pistols, rifles, machine guns, grenade launchers), and the relatively new capability of remote weapon stations.	Firearms, Guns & Armaments	Carbines, Machine guns: Pistols, incl. machine pistols Revolvers Rifles, incl. recoilless rifles Remote Weapons Stations	Carbines, Machine guns: Pistols, incl. machine pistols Revolvers Rifles, incl. recoilless rifles Remote Weapons Stations	Assemble CAD Design & Manufacture Certify & Qualify Design Develop Infrastructure Support Services Install/Set to Work Maintain Manage Obsolescence Manufacture/Construct Model & Simulate Modify/Adapt Operate Repair Supply Systems Integration Test & Evaluation Through-life Support
through-life and real-time support of mission and safety critical software; system assurance capabilities for both ICT hardware and software; the repair and maintenance of specialist AEW&C systems; the development and through-life support of JORN and phased-array radars; secure test facilities and test ranges; the development and support of targeting and precision navigation capabilities;	<b>Through-life and real-time support of mission and safety critical software.</b> These capabilities are for real time, or near real time, adjustment to software associated with critical systems (combat systems).	IT Applications	Application development software Application server software Systems	Application development software Application server software Systems	Certify & Qualify Design Develop Implement Infrastructure Design & Development Infrastructure Support Services Install/Set to Work Maintain Manage Obsolescence Modify/Adapt Operate Repair Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support

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	<p><b>System assurance capabilities (both hardware and software).</b> Capabilities that assure ADF IT and software driven systems as suitable and available for service. This includes assessing the reliability of hardware and software, to ensure it is fit for purpose and function, and free of malicious code.</p>	IT Infrastructure	<p>Systems hardware (incl. servers, mass storage &amp; protection)</p> <p>User devices</p>	<p>Systems hardware (incl. servers, mass storage &amp; protection)</p> <p>Server Cabinets and Storage Units ***</p> <p>User devices</p>	<p>Assemble</p> <p>CAD Design &amp; Manufacture</p> <p>Certify &amp; Qualify</p> <p>Design</p> <p>Develop</p> <p>Implement</p> <p>Infrastructure Design &amp; Development</p> <p>Infrastructure Support Services</p> <p>Install/Set to Work</p> <p>Maintain</p> <p>Manage Obsolescence</p> <p>Manufacture/Construct</p> <p>Model &amp; Simulate</p> <p>Modify/Adapt</p> <p>Operate</p> <p>Repair</p> <p>Supply</p> <p>Systems Definition</p> <p>Systems Integration</p> <p>Technical Support Services</p> <p>Test &amp; Evaluation</p> <p>Through-life Support</p>

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	<p><b>Airborne Early Warning and Control (AEW&amp;C) aircraft systems.</b> This capability relates to the repair and maintenance of specialist AEW&amp;C systems including the airborne tactical data system, Multi-role Electronically Scanned Array (MESA) radar, IFF, communications and electronic support systems.</p>	Platform Engineering	Electronic warfare self protection - airborne	Electronic warfare self protection - airborne	Assemble CAD Design & Manufacture Certify & Qualify Design Develop Implement Infrastructure Design & Development Infrastructure Support Services Install/Set to Work Maintain Manage Obsolescence Manufacture/Construct Model & Simulate Modify/Adapt Operate Repair Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support

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	<p><b>Secure test facilities and test ranges.</b> This capability relates to the availability of maritime, air and land based ranges for test and evaluation of weapons, signatures and electronic warfare systems. Test ranges are likely to be owned by the Commonwealth with industry providing testing equipment and services.</p>	Estate Management Services	Garrison Support	Test facilities Test ranges	Assemble CAD Design & Manufacture Certify & Qualify Design Develop Implement Infrastructure Design & Development Infrastructure Support Services Install/Set to Work Maintain Manage Obsolescence Manufacture/Construct Model & Simulate Modify/Adapt Operate Repair Supply Systems Definition Systems Integration Technical Support Services Test & Evaluation Through-life Support

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	<p><b>HF and Phased Array Radars.</b> This capability includes the ongoing development and support of the locally developed world leading capabilities embodied in the Jindalee Operational Radar Network (JORN) and the Phased Array Radar systems currently being installed on ANZAC frigates.</p>	<p>Electronic Warfare and Radar</p> <p>Electronics Engineering</p>	<p>Tactical radar</p> <p>Radar (HF)</p>	<p>Tactical radar</p> <p>Phased array radar</p> <p>Radar (HF)</p>	<p>Assemble</p> <p>CAD Design &amp; Manufacture</p> <p>Certify &amp; Qualify</p> <p>Design</p> <p>Develop</p> <p>Implement</p> <p>Infrastructure Design &amp; Development</p> <p>Infrastructure Support Services</p> <p>Install/Set to Work</p> <p>Maintain</p> <p>Manage Obsolescence</p> <p>Manufacture/Construct</p> <p>Model &amp; Simulate</p> <p>Modify/Adapt</p> <p>Operate</p> <p>Repair</p> <p>Supply</p> <p>Systems Definition</p> <p>Systems Integration</p> <p>Technical Support Services</p> <p>Test &amp; Evaluation</p> <p>Through-life Support</p>
	<p><b>Targeting and precision navigation.</b> This capability relates to the provision of geospatial information and systems including software development. The capability is associated with both GPS based systems and inertial navigation systems.</p>	<p>Electronics Engineering</p> <p>IT Applications</p>	<p>Targeting and precision navigation</p> <p>Geographic information systems</p> <p>Systems</p>	<p>Targeting and precision navigation</p> <p>Geographic information systems</p> <p>Systems</p>	<p>Assemble</p> <p>Certify &amp; Qualify</p> <p>Design</p> <p>Develop</p> <p>Implement</p> <p>Infrastructure Design &amp; Development</p> <p>Infrastructure Support Services</p> <p>Install/Set to Work</p> <p>Maintain</p> <p>Manage Obsolescence</p> <p>Manufacture/Construct</p> <p>Modify/Adapt</p> <p>Operate</p> <p>Repair</p> <p>Supply</p> <p>Systems Definition</p> <p>Systems Integration</p> <p>Technical Support Services</p> <p>Test &amp; Evaluation</p> <p>Through-life Support</p>

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development of capabilities in the field of combat clothing and personal load carriage equipment;	<b>Combat clothing and personal equipment.</b> This capability encompasses the ability to undertake ongoing development of the combat uniform and personal equipment fabrics, to include multi-spectral and other signature reducing characteristics, along with other enhancements to personal survivability.	Personal Demand Items	Clothing, knitwear individual equipment & insignia (various SO Panels)	Combat clothing Webbing and personal equipment	Assemble CAD Design & Manufacture Certify & Qualify Design Develop Maintain Manage Obsolescence Manufacture/Construct Model & Simulate Modify/Adapt Repair Supply Test & Evaluation Through-life Support