Capability Area	Location(s)	Title	Description	Aerospace/ Aeronautical Engineering, Naval Architecture	Chemical, Radiological, Biological, Food sciences	Computer Sciences, IT, Software Engineering, Telecommunications	Electronic/ Electrical Engineering	Materials Science	Mathematics and physics	Mechanical and Mechatronic Engineering (including robotics)	Psychology and Social Sciences	Other related areas
Aircraft Structures	Fishermans Bend (VIC)	Cadet: Risk and Reliability Research	The cadet will develop a conceptual decision-making framework (with the capacity to blend: logic, models, data, probabilistics and policies) to provide a structured approach to assessing airframe performance						X		X	
Aircraft Health and Sustainment	Fishermans Bend (VIC)	Cadet: Robotics/ Material State Awareness	Cadets will contribute to scientific research in advanced structural diagnostic and material state awareness technologies. Cadets will assist in the design, development, testing and implementation of automated and autonomous inspection capabilities using ground-based and aerial robotics. Tasks include data processing and analysis, computational modelling and simulation, and technology development and evaluation in specialist laboratory and test facilities.			X		X	X	X		
Joint Warfare and Operations	Edinburgh (SA)	Cadet: Sociology	The cadet will contribute to researching the significance of social conditions that contribute to the emergence of social conflict, and in particular, the construction of violent extremist identities. This work forms part of a wider research program pertaining to the identification and mitigation of future threats and conflict to support planning for ADF operations.								X	Systems Science Business & Economics
Strategy and Joint Force	Fairbairn (ACT)	Cadet: Strategy and Future Force	In this broad and strategic position, the cadet will make substantial contributions in informing the Defence department's strategic understanding and future force posture. This role will use a mixture of analytical methods, such as strategic analysis, experiment and wargame design, simulation to support the whole of force design and its integration. This position also offers the opportunity to assess the impact of emerging technologies on Defence and national security.			X			X		X	Operations Research Mathematics Systems Engineering Business & Economics International Studies Political Science
Chemical & Biological Defence	Fishermans Bend (VIC)	Cadet: Hazard Assessment	The cadet will work in a small team analysing the effects on personnel of a chemical, biological, radiological or nuclear (CBRN) release using computer based simulation packages to support Defence and National Security operations. Activities will also include developing empirical or physics based mathematical models and algorithms to improve DST's ability to predict the effects of CBRN releases, in areas including CBRN weapons effects, atmospheric dispersion, source back-tracking using CBRN detector networks and casualty estimation.		X				X			
Land Personnel Protection	Fishermans Bend (VIC)	Cadet: Integrated Personnel Protection	The cadet will be a part of the team to investigate a virtual environment that is capable of visually representing the electromagnetic energy signatures across different bands from both sensor measurements in the field and modelled signatures from computational simulations. The aim is to allow virtual assessment of target signatures within an operational environment across a broad spectrum of wavelengths. The work would suit an engineer or scientist with experience and proficiency in programming background coupled with data and imaging analysis ability. An understanding of IR physics, Artificial Intelligence with focus on pattern recognition and simulation are desirable.			X	X	X	X			
Maritime Platform Performance	Fishermans Bend (VIC)	Cadet: Naval Architecture	Working in a team of naval architects and systems analysts, the cadet will contribute to developing whole-of-boat performance and integration impact analysis techniques and advice in support of Navy's surface ship acquisition programs. This includes the assessment of performance and risk aspects related to sea-way loads on existing and proposed ship concepts, the analysis of global structural reliability and degradation related to operational loads; and advice on the maturation of requirements to be used for future surface ship acquisition programs. The cadet is also expected to participate in experimentation and numerical modelling programs for this aim.	X								
Information Integration	Edinburgh (SA)	Cadet: Computer Systems Engineer	The cadet will contribute to the software development effort of an Integrated Intelligence, Surveillance & Reconnaissance capability. This capability will be used in a campaign of trials with the ADF to demonstrate future information integration concepts. The role will require a solid understanding of software engineering (specifically using Java and JavaScript) and some knowledge of systems integration.			X						
Intelligence Systems	Edinburgh (SA)	Cadet: Surveillance Systems Engineer/Scientist	The cadet will contribute to the development of advanced airborne and space-based remote sensing capabilities for wide area surveillance purposes and to optimise performance for specific applications and technologies (including Optical, Infrared, Hyperspectral, Full Motion Video and Synthetic Aperture Radar). The role can include the application of advanced algorithmic techniques to large datasets generated to detect, classify and exploit specific features from the remote sensing data. This includes the application of Machine Learning techniques for object detection, tracking and classification.			X	X			X		

Capability Area	Location(s)	Title	Description	Aerospace/ Aeronautical Engineering, Naval Architecture	Chemical, Radiological, Biological, Food sciences	Computer Sciences, IT, Software Engineering, Telecommunications	Electronic/ Electrical Engineering	Materials Science	Mathematics and physics	Mechanical and Mechatronic Engineering (including robotics)	Psychology and Social Sciences	Other related areas
National Security	Fairbairn (ACT)	Cadet: National Security Technology Foresighting	The cadet will work within the National Security Science & Technology Centre (NSSTC) and contribute to the coordination and management of science and technology programs for national security agencies. The cadet will also be involved in technology foresighting activities to inform the NSSTC Research and Innovation agenda. The cadet will have the opportunity to interact with a range of stakeholders including government, academia and industry (e.g. National Centre for Forensic Science (NCFS) at University of Canberra in the Forensic and Biometrics areas). The role will require good analytical skills for identifying and assessing emerging technologies, developments and trends, and excellent writing skills to contribute to the development of horizon scanning and technology watch reports. Academic background relevant to the NSSTC priority areas is also desirable.		■	■			■		■	
Energetic Systems and Effects	Edinburgh (SA)	Cadet: Energetic Systems and Effects	The cadet will contribute to the Transformative Energetics Research Program to explore innovations in energetic materials that could lead to disruptive change in weapon systems. This includes the use of nano materials and emerging manufacturing methods to deliver highly solids loaded and/or structured materials to achieve enhanced performance, safety and novel effects. Research that the cadet may be involved in includes investigation of nanomaterial properties, coating of nanomaterials to enhance reactivity, the development and characterisation of multi-component formulations and consolidation methods to optimise energy density in challenging configurations. The multi-disciplinary program has a significant experimental component, supported by literature studies and modelling.		■			■				
Cyber and Network Security	Edinburgh (SA)	Cadet: Cyber & Network Security	The cadet will contribute to cyber security research and development which may include hardware or software based security, algorithmic warfare (machine learning approaches to cyber defence), cognitive cyber (including autonomous cyber operations and other AI approaches, e.g., neuromorphic engineering), trustworthy systems (building truly secure hardware devices), cyber resilience (advanced and automated vulnerability assessment of ADF equipment), or mission assurance (supporting the planning and implementation of cyber missions in a contested environment).			■	■		■			