

The Australian UAS Strategic Plan

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During 2007, Defence published the Unmanned Aerial Systems Roadmap 2007 Edition which provides direction and guidance to the development of Unmanned Aerial Systems (UAS) capabilities to meet the emerging requirements of Australia's strategic environment.

The roadmap outlined the need for effective management and coordination of UAS expertise, policy development, operational and support activities to fully realise the potential benefits of UAS in Defence. To that end, the joint Unmanned Systems Planning Team has been formed to provide proactive management and coordination of UAS expertise, policy development and other activities as required maximising UAS for the Australian Defence Organisation.



environments.
Skylark IV

Australia's Al Muthanna Task Group (AMTG) has deployed for the first time UAS to support current operations in Iraq.

Apart from some operational experimentation with the Aerosonde system in the Solomons, this represents Australia's first real operational deployment and employment of UAS.

The Skylark Small UAS was procured via a rapid acquisition process in November 2005 and was supplied by Israel's Elbit Systems. This Small UAS is designed for tactical close-range

surveillance and reconnaissance missions providing information about terrain and ground activities while maintaining situational awareness for patrols.

Key planning priorities for the USPT generated from the UAS roadmap are to:

- Ensure the successful introduction of UAS already planned;
- Ensure the successful exploitation of capabilities we introduce;
- Explore opportunities where UAS, technologies or new approaches to capability inputs have demonstrated advantages; and
- Explore novel opportunities in UAS, technologies and fundamental inputs to capability.

Current Australian UAS Programs

Current operations necessitated the rapid acquisition and employment of the Tier I Skylark and Tier II Scan Eagle UAS. This has assisted the significant progress made by Defence in the area of Unmanned Aerial Systems (UAS) requirements analysis. Both systems continue to provide Army with valuable ISTAR support for land forces and the Tier II ScanEagle UAS has reached a staggering 10,000 combat flight hours since deployment in 2006.



ScanEagle

The Tier II ScanEagle UAS was leased from Boeing Australia Pty LTD under a Rapid Acquisition program in response to meet an operational demand by the Overwatch Battle Group, West (OBG(W)). Since initial employment its use has been expanded to include support to UK forces in southern Iraq and

Australian operations in Afghanistan. This system is operated by 20 Surveillance and Target Acquisition (STA) Regiment.

Small Unmanned Aerial Systems

The UAS Roadmap has identified the potential requirement for ISR capabilities in urban environments and the need to provide sentry and force protection, therefore, the importance of this class of UAS can not be underestimated. Since 2005, the ADF has had the opportunity first-hand in using this class of UAS in gaining beneficial operational experience with the purchase of Small UAS that are currently tackling challenging and unique military

The ScanEagle UAS is a medium range, long endurance UAS designed to provide close support to unit and sub-unit level operations. Weighing 20kg the ScanEagle system is powered by an unleaded motor, has a wingspan of 3.04m and can operate up to a range of 100km from a Ground Control Station (GCS). It is launched automatically via a catapult system, flies autonomously, recovers

automatically by sky hook and can be equipped with day and night electro-optic sensors.

Joint Project 129 Phase 2 – Tactical UAS

In November 2005, the Australian Government approved the acquisition of the Australian Army's Tactical Unmanned Aerial System (TUAS) in support of Land forces on operations under Joint Project (JP) 129 Phase 2. This was followed by a public announcement that the preferred tenderer is a team with Boeing Australia Limited (BAL) offering the Israeli Aircraft Industries (IAI) *I-View* UAS.

The first *I-View* will be operational in 2010 and managed by 20 Surveillance and Target Acquisition (STA) Regiment. The *I-View* can operate on 5 hour missions, at an altitude of 15,000ft. It can be launched by catapult or by conventional wheeled takeoff. It has a unique recovery system, which is by a precision parafoil. This launch and recovery system provides the Commander with tactical mobility as it is not reliant on prepared runways.

AIR7000 Phase 1 – Multi-mission Unmanned Aerial System (MUAS)

The Life of Type (LOT) for Australia's AP-3C fleet is being driven by the increasing cost of addressing airframe fatigue and corrosion, aircraft system supportability and mission system obsolescence. The airframe and aircraft systems, including engines, hydraulics, electrical and fuel systems will become more costly to support as the aircraft ages. And although mission system obsolescence is being addressed via other projects, a further upgrade would be required to extend its usefulness beyond 2018.

Air 7000 intends to replace the AP-3C capability with a mix of manned and unmanned aircraft. The manned aircraft will most likely be the P-8A Poseidon, a derivative of the Boeing 737. The unmanned segment of Air 7000 Phase 1 (Multi-mission Unmanned Aerial System [MUAS]) involves the study and procurement of a long endurance Unmanned Aerial Vehicles (UAV) system for maritime patrol and other surveillance. The unmanned aerial system should be capable of performing all-weather, long endurance surveillance and reconnaissance tasks over maritime and land environments.

Future Australian UAS Programs

Implementation activities of the recommendations made in the *2007 Unmanned Aerial Systems Roadmap* are already underway. Future versions may broaden to focus on the range of unmanned systems, their relationships and the issues surrounding unmanned systems in general. The next version may look at considering how unmanned systems would be employed; who they should interact with, what critical technologies are required and available and what standards are required to support these operational concepts, these may provide the basis for future direction into unmanned systems initiatives.

Defence will transform over the coming year as activities have begun in commissioning a new Defence White Paper. This paper is a vital planning document that will form the foundation of our future Defence capabilities and sets the stage for our strategic position and direction. The Defence White Paper is a critical document in the development of the next UAS Roadmap.