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First RAAF Loyal Wingman unmanned combat system rolled out

written by Andrew McLaughlin | May 5, 2020



The first of three Boeing Loyal Wingman systems for the RAAF. (BOEING)

The first of three [Loyal Wingman](#) unmanned combat aircraft for the RAAF has been rolled out by Australia and its industry partners.

The aircraft, which at 37 feet long with a 24 feet wingspan is the size of a small fighter, can fly at high speed with various payloads and has been designed and manufactured in Australia. The RAAF had ordered the aircraft far under Air Force Minor Program DEF 6014 Phase 1, with a view to developing the concept of operating high performance unmanned combat system.

Designed and developed by Boeing Australia in conjunction with BAE Systems Australia, RUAG Australia, 30 other industry suppliers, the Loyal Wingman has more than 70 per cent Australian content, and is part of the Airpower Teaming Systems concept which it hopes to develop for multiple international customers.

“This project is an excellent example of innovation through collaboration and what can be achieved with the defence industry,” RAAF Chief of Air Force, AIRMSHL Mel Hupfeld said in a statement. “This demonstrates the importance of the relationship Air Force has with Boeing Australia and defence industry more broadly. I am exploring the capabilities this aircraft may bring to our existing fleet in the future.”

Boeing’s ATS program director Shane Arnott told media that the Loyal Wingman will have a reconfigurable “snap off” nose section and open systems architecture which will enable different sensor payloads to be swapped out to suit mission profiles. “The nose is 2.5 metres in length and more than 1.5 cubic metres in volume, so it’s designed to fit different payloads and sensors into,” he said. “The whole idea of this is to give flexibility to the customer to achieve multi-role capability at a fraction of the cost of what is typically possible.”

While Arnott wouldn’t be drawn on what these payloads might be, it is likely these will include air-to-surface radar, electro-optical/infrared (EO/IR), or electronic intelligence (ELINT) sensors, or active electronic warfare. RAAF Head of Air Force Capability, AVM Cath Roberts also offered that the Loyal Wingman would assume multiple roles, and thus would be capable of employing air-to-surface or air-to-air weapons.

When asked whether a successful Loyal Wingman development and concept demonstration program might see the system being part of the third tranche of Project AIR 6000, AVM Roberts said it was more likely that Loyal Wingman will help to inform which way that project may go. This may result in the acquisition of the last 28 F-35As of the current program of record for 100 jets, the retention and upgrade of the RAAF’s 24 F/A-18Fs to conduct missions, the formation of an operational Loyal Wingman unit, or a combination of these options.

“We are proud to take this significant step forward with the Royal Australian Air Force and show the potential of unmanned teaming to serve as a force multiplier,” Boeing Defense, Space & Security vice president and general manager of Autonomous Systems, Kristin Robertson said in a statement. “We look forward to getting the program into flight testing and proving out the unmanned teaming concept. We see global allies with those same missions, which is why this program is so important to advancing the development of the Boeing Airpower Teaming Systems concept.”

In a separate statement BAE Systems Australia Chief Executive Officer Gabby Costigan said, “I am delighted to be working with Boeing Australia to bring a new defence capability to life that also offers enormous potential for future export markets. This project highlights our commitment to leading the development of new technologies and collaborating to advance autonomous capabilities. It is also an exciting opportunity to continue to deliver, again, delivering a world-leading program using home-grown engineering expertise.”

The Loyal Wingman has been developed through extensive computer modelling and actual [sub-scale aircraft](#) flights to develop the concepts of flying in company with manned aircraft, autonomous swarming, and the levels of artificial intelligence required.

The first full-scale aircraft will undergo systems testing before conducting ground and taxi tests, with the conducting its first flight at an undisclosed location by the end of 2020.



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