

Feature Story

Boeing completes autonomous flight test trifecta

July 16, 2020

Boeing has conducted an end-to-end flight mission using three high performance test beds in outback Queensland, marking another successful milestone for the Autonomous Systems Platform Technology Project.

“The goal of our mission was to completely test out our mission system software from start to finish, using three high performance jets,” said Emily Hughes, director of Boeing’s Phantom Works International.

During the flight, Boeing Australia successfully performed a number of tests, including the three jets taking off autonomously, achieving the required in air formations, departing from the formation and each autonomously landing.

“While we have previously flown larger numbers aircraft autonomously, this was our first opportunity to perform an end-to-end mission test with three high performance test bed aircraft, at speeds of up to 200 kilometers per hour,” said Hughes.

“The test returned pleasing results, demonstrating our mission system is performing as intended, and it is a huge credit to our technical team, along with our suppliers RFDesigns who supported the flight mission on-site in Tara.”

The Autonomous Systems Platform Technology Project is Boeing’s second Advance Queensland investment partnership with the Queensland Government. Boeing and its partners are developing new on-board autonomous command and control technology to enable unmanned vehicles to perceive, process, communicate and act in accordance with their programmed mission – without input from a human operator. Boeing will continue flight tests for the project in Cloncurry later this year.

“Boeing is a key global player in the sector. We look forward to the company being the first user of the Cloncurry Flight Test Facility in North West Queensland; Australia’s first drone flight test facility,” said Kate Jones, Minister for State Development, Tourism and Innovation. “We’ve invested \$14.5 million to develop the new facility, which we believe is critical to a UAS industry in the state, creating jobs and economic benefits in Queensland.”

The technology developed as part of this project is informing Boeing’s development autonomous aircraft, including the Boeing Airpower Teaming System.

The image displays a drone mission control interface. The central map shows a complex white path with multiple loops and turns, indicating a planned flight route. On the left, there are panels for 'Target Control' with a play button, 'Tracks' with a list of tracks (MISL.S), and 'MISSION TASKING' with 'Send' and 'Task' buttons. On the right, there is an 'Object Detection' panel with a 'Log' section containing a list of messages and a 'Plot Stats' section with a line graph showing 'Loss Pickups Percentage' over time. The video player at the bottom shows a progress bar at 0:00 / 0:24.

**Using artificial intelligence
they completed formations
without human intervention**