



SUCCESS

WITH

COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT

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COMPANY NAME:

Locata Corporation
Canberra, Australia

TECHNICAL PROJECT OFFICE:

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ADVANCED NAVIGATION SYSTEM Developed through Air Force Agreement

WRIGHT-PATTERSON AIR FORCE BASE, OHIO – Under a Cooperative Research and Development Agreement, the Air Force Institute of Technology and the Locata Corporation delivered a highly accurate navigation system that performs in wide-area GPS jamming environments caused by electronic warfare.

The 746th Test Squadron at Holloman AFB, New Mexico, required a highly accurate navigation system for testing methods developed for overcoming GPS jamming, or electronic warfare. This system is tested on equipment, such as aircraft or land-based vehicles that are used in locations where electronic warfare prevents the warfighter from using GPS in battle. The Locata Corporation, headquartered in Canberra, Australia, developed a commercially-available network system that



A LocataLite transmitter transmits high-accuracy positioning signals across the White Sands Missile Range, New Mexico, for testing methods developed for overcoming GPS jamming, or electronic warfare. This highly accurate navigation system was created through a Cooperative Research and Development Agreement between the Air Force Institute of Technology and the Locata Corporation. (Photo courtesy of Locata Corporation)

provided highly accurate, terrestrial position, navigation and time, or PNT solutions in environments with or without GPS.

However, the Air Force requirement covered a larger geographic area than the Locata technology was originally designed to support and required additional updates. Since AFIT had experience with modeling errors and atmospheric delays on larger networks, they were chosen by the 746th Test Squadron to partner with the Locata Corporation through a CRADA. This collaboration allowed AFIT to provide research and government expertise for updating Locata's system to meet the requirements developed by the 746th Test Squadron.

The updates included new antennas for aviation use, amplifying the Locata transmitter signals for longer ranges and determining the additional dynamics associated with aircraft, such as speed, maneuverability and tropospheric variation adjustments. The updated Locata system was tested on military GPS equipment which can also utilize M-Code signals, or military signals that assist with encryption by providing a more secure signal than previous technology. Tests of the updated navigation system were conducted at White Sands Missile Range, New Mexico, by the 746th Test Squadron.

"The AFIT updates to the Locata system provide accuracy in a GPS-jammed environment that approaches the best we can get in a clear-air environment. We are currently using this system to test the DoD's next generation navigation systems," said Jim Brewer, 746th Test Squadron, Holloman, AFB.

Through the CRADA, AFIT had unique access to the challenges associated with building a real system versus building simulations. In addition, researchers had exposure to extremely relevant research that was only made possible through the agreement.

"This collaboration provided Locata with access to a large military base and aircraft so extremely long-range Locata systems could be tested and verified," said Paul Benshoof, business development manager, Locata Corporation.

"It's an honor to be working with the undisputed best in the business when it comes to precision reference systems. The Locata team is proud to provide a technology that can deliver such an important capability to the DoD," said Nunzio Gambale, chief executive officer, Locata Corporation.

For additional information about technology transfer agreements or how to partner with the Air Force, please contact the Air Force Technology Transfer Program office at 937-904-9830, af.techtransfer@us.af.mil, or visit the T2 website at www.wpafb.af.mil/t2.

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