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US Air Force Institute of Technology (AFIT) signs Agreement on new GPS technology development with Locata

Canberra, Australia and Las Vegas, Nevada – September 16, 2013 – The U.S. Air Force Institute of Technology (AFIT) has signed a Co-operative Research & Development Agreement (CRADA) with Locata Corporation (Locata) to build and demonstrate new Locata technology for use in GPS receivers. This cooperation is expected to leverage many years of proprietary Locata ground-based positioning technology development to bring completely new capabilities to satellite-based GPS receivers.

The CRADA is specifically directed to evaluate Locata's patented VRAY™ switching antenna and new correlator technologies for multipath mitigation in position receivers that run at GPS frequencies. Locata engineers are transferring to AFIT the knowledge and experience they have gained with existing commercial VRAY systems. This will allow AFIT researchers and engineers to familiarize themselves with the new antenna's characteristics, and provide AFIT with an essential platform to develop GPS-specific versions of Locata's correlator and switching algorithms. AFIT will first design and build a GPS-frequency multi-element switching antenna prototype that is based on Locata VRAY patents. When built, AFIT intends to use their GPS receiver and this prototype VRAY to physically demonstrate the feasibility of using Locata technology to improve GPS receiver performance.

After these initial prototypes are built, AFIT plans to design and test several other GPS-based versions of Locata's flexible switching antenna array to assess how Locata's VRAY antennas can be adapted to use cases which are of specific interest to the military. Designs already discussed with Locata include stand-alone antennas, a version built into helmets, and arrays conformal to a vehicle's frame (e.g. flattened for a Humvee's roof, curved for aircraft fuselages, etc).

As a first step in this collaboration, AFIT personnel visited Locata's head office for a week of detailed, wide-ranging engineering briefings on the design fundamentals underpinning this new type of antenna. Locata hosted AFIT's Director, Dr. John Raquet, and engineers Dr. Peter Collins and Mr. Jason Barhorst (*see picture*) in multiple engineering meetings where Locata's current production VRAY Orb-80 antenna was revealed for the first time, and then closely analyzed. AFIT and Locata engineers then workshopped the

modifications and design choices required to integrate the Locata designs into a GPS form-factor.

Dr. John Raquet, Director, Advanced Navigation Technology Center, AFIT, stated: “If this CRADA is successful, the technology could enable significantly improved technical performance and a reduction in the cost of multiple-element GPS antennas. AFIT is excited to investigate this technology for the benefits it will potentially bring to American warfighters.”

Nunzio Gambale, CEO and Co-Founder, Locata Corporation, said: “We are incredibly proud to be involved with the US Air Force Institute of Technology in another CRADA, developing the absolute cutting-edge of positioning technology. Our previous LocataNet partnership with Dr. Raquet and his world-class AFIT researchers quickly taught us why this team is renowned throughout the industry. AFIT brings exceptional skills to this important integration of Locata technology, directed to the creation of a new class of antennas for GPS. I’m certain our collaboration, along with access to the USAF’s unrivaled prototyping and test facilities, will deliver ground-breaking improvements for future GPS devices.”

After the introductory technical meetings AFIT immediately started working on the milestones laid out in the CRADA project plan. When the project is completed, AFIT will produce a CRADA Final Report which will:

- include results and the measured performance of AFIT’s Locata-enhanced GPS receiver; and
- describe design considerations gleaned from AFIT’s experience with the new Locata VRAY antennas and correlators, as applied to GPS.

NOTE: VRAY, invented by Locata founder David Small, is a radically new antenna technology. It produces results that simply seem “impossible” to traditional radio engineers. A short video which explains this fundamental advance in antennas can be seen here: http://www.locata.com/article/vray-antenna.

About Locata

Locata Corporation has invented completely new terrestrial positioning networks which function as local, ground-based replicas of GPS. These networks can best be thought of as “GPS hotspots”. *There is no other technology that can do this.* Many years of R&D have resulted in Locata amassing 120 granted patents protecting their innovations, with many more patents coming. Locata has now begun shipping commercial systems, in the first instance to extremely demanding and professional end users like the USAF. Locata’s clients are already deploying their operational networks. Locata allows them – for the first time – to extend GPS-like positioning coverage to modern industrial, commercial, consumer and government applications in areas where GPS is erratic, jammed or unavailable.

Customer praise for Locata's new technology has been immediate and passionate. They are eagerly reporting unprecedented gains in the reliability and efficiency of their positioning applications [http://bit.ly/Zp56la] – and to their bottom lines! These early adopters are the first to directly experience Locata technology breakthroughs, and so see for themselves the addictive power of next-generation GPS. When users first gain access to **seamless satellite+terrestrial positioning systems** – which Locata calls **GPS 2.0**™ – they quickly realize it's a game-changer. As the name implies, Locata is a fundamental advance in this technology space.
It will power the next-generation of position solutions and in the process redefine expectations about what modern positioning applications can and *should* do.

Locata has single-handedly pioneered this new "GPS everywhere" experience, and is now taking it to the world.

Positioning will never be the same again.

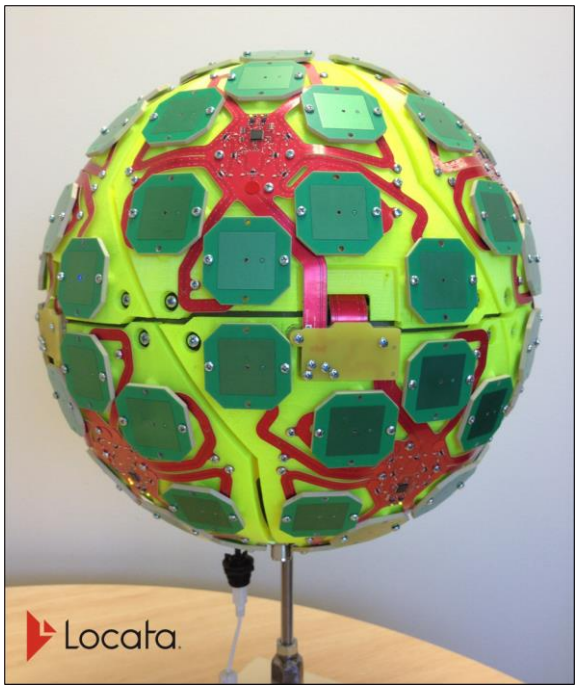
Visit www.locata.com

For the AFIT version of this press announcement please visit the AFIT web site: http://www.afit.edu/PA/news.cfm?article=588&a=news

VRAY is a trademark of Locata Corporation.

[Pictures follow]

AFIT-Locata Kick-off Meeting. *This is the first picture ever publicly released showing Locata's radically new switching antenna, a design that AFIT will now modify for use with GPS receivers.* Pictured (L-R): Dr. Steve Hewitson & Ian Sainsbery (Locata engineers); Jason Barhorst (AFIT); David Small (Locata Technology inventor), Nunzio Gambale (Locata CEO), Dr. John Raquet (Director, Advanced Navigation Technology Center, AFIT), Dr. Peter Collins (Antenna and RF Engineer, AFIT), Dr. Trevor Hobbs (Locata R&D Director).



Locata VRAY Orb-80 Antenna: The first commercial VRAY antenna, designed to mitigate multipath for difficult machine automation applications in warehousing, supply-chain, port and industrial environments. This design will be modified by AFIT for use with GPS receivers.