



111 Canberra Avenue,
Griffith ACT 2603 [Australia](#)
Phone: +61-2-6126-5701
Fax: +61-2-6126-5702
e-mail: enquiry@locatacorp.com
ABN 35 077 811 342

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Media Contact:
VOXUS PR
Lindsay Stril
(253) 444-5443

World-First Locata Achievement Leads to U.S. Air Force Contract for New Non-GPS Based Positioning System

GPS Satellites Not Required for Locata's Revolutionary Centimeter-level Positioning

Canberra, Australia & Las Vegas, Nevada – December 12, 2012 – [Locata Corporation](#) today announced the U.S. Air Force has signed a sole-source, multi-year, multi-million dollar contract to install the U.S. Military's first revolutionary ground-based LocataNet™ positioning system at the famed White Sands Missile Range in New Mexico. In an unprecedented world-first achievement the USAF will field Locata's new technology to supply them with extremely accurate "reference truth" positioning across a vast area of White Sands when GPS is being completely jammed.

Locata is the only technology in the world that can do this.

[In a recent USAF technical report](#) the need for a new non-GPS based positioning capability was described by the [746th Test Squadron](#) (746TS) as the key component for "*the realization of the new 'gold standard truth system' for the increasingly demanding test and evaluation of future navigation systems for the U.S. Department of Defense.*" Locata is the new technology now contracted to enable this "gold standard capability" for the USAF's future truth reference, the Ultra High-Accuracy Reference System (UHARS).

The above report documented extensive testing of Locata's new capabilities when a LocataNet covering 1,350 square miles (3,500 square kms) was first deployed at White Sands. The USAF and 746TS proved a LocataNet can accurately position USAF aircraft over a large area when GPS is "denied." In fact, Locata delivered superbly accurate *independent* positioning which was as good as, or better than, the USAF's current CIGTF Reference System (CRS). The CRS is arguably the most accurate reference system available for flight and ground testing today. It's an extremely sophisticated hi-tech system, combining a differential dual-frequency GPS solution and a high accuracy inertial measurement unit with integrated gravity deflection of vertical corrections. The CRS is the system which has provided reference in support of a plethora of high-accuracy navigation tests for the USAF over the last decade. The Locata non-GPS based positioning capability is core to the UHARS which will now replace the CRS in 2014.

Christopher Morin, Technical Director for the 746TS, said "Locata Corp delivered a LocataNet for use in our October 2011 technical demonstration on White Sands Missile Range that provided time and position truth, independent of GPS, that was better than 18 cm (6 inches) per axis while flying at 15,000 and 20,000 foot above mean sea level profiles. The solutions provided by the LocataNet were within the accuracy tolerance of the squadron's CIGTF Reference System and met our threshold objectives. Further analysis has shown that if we optimize the LocataNet deployment, characterize its errors and tightly couple its range and carrier-phase measurements with the other GPS and inertial components on the UHARS pallet into the UHARS solution post-processing software, I am confident we will be able to meet our 5 cm (2 inch) per axis truth reference objective. I am very pleased with the LocataNet's demonstrated ability to produce an accurate, dynamic truth reference from the relatively static implementation they had already deployed in the mining industry."

“Locata products developed and sold by important commercial partners like [Hexagon](#) and [Leica Geosystems](#) have already shown our new technology is a game-changer for positioning over industrial-sized areas” said Nunzio Gambale, CEO and co-founder of Locata. “However, proving Locata can provide the USAF with cm-accurate non-GPS positioning over a vast military area when GPS is jammed *instantly* elevates our technology achievements into a completely new league. It’s important to grasp the scale of what we’ve done here. The 2,500 square mile LocataNet at White Sands will be 74 times the size of Manhattan Island. It must be clear, our ability to deliver cm-level (inch-level) positioning over an area that large, without using GPS satellites, is both unique and *totally* revolutionary! No-one else on earth can do this. Many valuable industrial and consumer apps will now be built around our amazing inventions, created by Locata’s co-founder David Small and our brilliant engineers.”

“This contract makes it clear you are witnessing the arrival of one of the most important technology developments for the future of the entire positioning industry.”

Under this new contract Locata will provide the USAF with Locata Receivers and LocataLite transmitters to blanket 2,500 square miles (6,500 sq km) of the White Sands Range. Locata will also:

- a) deliver extended hardware warranty, along with ongoing Locata software and firmware upgrades, through to the year 2025;
- b) supply multi-year support for the installation, fielding and testing of Locata networks; and
- c) provide long-term consultation and expert technical advice to ensure optimal operational performance of the USAF’s fielded LocataNet systems.

“The 746 Test Squadron leads the U.S. Department of Defense tri-service GPS Test Center of Expertise,” states Gambale. “This famous squadron is without doubt the best source on earth to validate Locata’s revolutionary technology advances. The 746TS were not only instrumental in developing the original GPS system for the U.S. military, but they have a long history of pushing the limits of next-generation positioning. I cannot describe how proud the Locata team is to be awarded this contract. We spent many years working alongside the USAF to extend our capabilities to such large areas. What Locata demonstrated at White Sands has never been done by another government entity anywhere – let alone by a private company. It’s a true, world-changing first.”

Prof. Chris Rizos, Head of the UNSW School of Surveying and Geospatial Engineering and Chair of the Working Group that developed the Australian Strategic Plan for Global Navigation Satellite Systems says, “The demand for an accurate, reliable and repeatable positioning capability *in all environments and at all times* grows stronger daily. However, it is clear that satellite-based systems alone cannot meet positioning expectations for future applications in machine automation, robotics, mining, heavily wooded or rugged terrain, urban and indoor environments, as well as where there is intentional (or unintentional) GPS interference such as at White Sands. It is becoming critically important for the world to have a real, locally controlled “GPS back-up” that addresses obvious GPS vulnerabilities. Locata *must* now be factored into any analysis of a viable alternative, or future augmentation, to GPS”.

For the first time, Locata makes it possible for nations, communities, organizations or companies to deploy their own accurate positioning system – what Locata calls “*Your Own GPS*”. It’s a critical invention which finally enables locally controlled “hotspots” to fill in areas where GPS is unreliable or completely unavailable, such as indoors. “Although GPS is the gold standard for positioning, it’s vital to realize there is *absolutely nothing* ‘global’ about positioning in a city or inside a mall,” states Gambale. “Locata is disruptive to the entire GPS industry because, *before* Locata, they believed the *only* way this type of positioning could be created was with a complex and expensive constellation of 24+ satellites, launched by superpowers, relying on multiple atomic clocks installed in each satellite. *Now* Locata proves this can be done *without* satellites *or* atomic clocks. This paradigm shift is not trivial. Our mere existence seriously threatens many in the industry as we confront the core, fundamental beliefs which they’ve been taught for years. It requires a new mindset – you have to leave the satellite paradigm behind and revise your expectations about what is now possible.

“Regardless of our affront to the GPS status quo, they can’t deny reality forever,” continues Gambale. “Locata has proven, beyond any doubt, that we have invented *a completely new way* to deliver GPS-style positioning. In the process, we’ve also given the world a timely, important and extremely valuable back-up to ease the problems that plague GPS in modern applications. As impressive as our achievements to date may be, however, it’s equally exciting to know Locata technology is only in its

earliest days of massive growth. We know Dave Small's inventions still have plenty of gas in the tank for multiple ground-breaking advances. The Locata team has many commercial developments in the pipeline now, including the unveiling soon of cm-accurate positioning for indoor industrial applications. Locata has the technology depth to deliver many more "science fiction level" advances to the world. Just watch this space!"

To learn more about Locata's revolutionary technology, contact enquiry@locatacorp.com

About USAF 746th Test Squadron

With over 50 years of experience, the 746th Test Squadron (746TS) – the US Department of Defense Central Inertial and GPS Test Facility (CIGTF) based at Holloman Air Force Base – is the U.S. DoD's premier facility for testing and evaluating GPS user equipment, inertial navigation systems (INS) and embedded GPS/INS navigation and guidance systems. To this end, the 746TS leads the tri-service GPS Test Center of Expertise (COE) comprised of Army, Navy, and Air Force test agencies chartered to support GPS test and evaluation initiatives. The 746TS's GPS evaluation capability includes all aspects of GPS receiver performance, to include testing of new GPS satellite/receiver compatibility prior to launch and on-orbit, analyzing signal-in-space characteristics that affect receiver performance, and assessing operational performance of GPS in the global airspace and electronic combat environments. Additionally, it provides GPS space and control (S&C) segment monitoring and performs trade studies, technical oversight consultation services and analyses regarding GPS platform integration.

Visit: <http://www.746ts.org/>

About Locata

Locata Corporation has invented terrestrial positioning networks which function as local ground-based replicas of GPS. There is no other technology that can do this. The company's LocataNets work with or without satellite-based GPS systems to improve reliability and expand coverage for modern industrial, commercial, government and consumer applications where GPS is erratic, jammed or unavailable. Partnering with global companies like Hexagon, Leica Geosystems, the USAF and others, Locata is pioneering a new "GPS everywhere" experience by developing their new technology to deliver centimeter-level accurate positioning *anywhere* – indoors or out. Positioning will never be the same again. Visit www.locatacorp.com



PIC 1: Lt Col Theodore (Ted) Conklin, Commander of the 746th Test Squadron (746TS) based at Holloman Air Force Base (left), is presented at the ION 2012 Conference with an award trophy by Nunzio Gambale, Locata CEO. The award celebrates the USAF contract awarded to Locata by the 746TS to install the world's first wide-area LocataNet over a vast 2,500 sq mile (6,500 sq km) site at the famed White Sands Missile Range. This trophy will join other mementos in the trophy cabinet in the foyer of the 746TS headquarters which commemorate the Squadron's illustrious 50-year history at the absolute forefront of development of positioning technology for the US military.

The Locata trophy read: *World-First Award: To the 746 Test Squadron Team upon awarding the contract for the world's first wide-area installation of a LocataNet for the USAF.*

**PIC 2:**

A pair of LocataLite transmit antennas overlook a section of the vast area of the White Sands Missile Range blanketed by the Locata high-precision ground-based positioning system

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