

EMBARGOED UNTIL 8 AM EASTERN (USA) ON WEDNESDAY DECEMBER 12, 2012

Media Contact:
VOXUS PR
Lindsay Stril
lstril@voxuspr.com
(253) 444-5443

Locata Confirms Extraordinary Positioning Results Obtained by the USAF during Independent Testing at White Sands Missile Range

*Locata Delivers Superb Positioning Accuracy and Reliability to the USAF
in the Complete Absence of GPS*

Canberra, Australia and Las Vegas, Nevada – December 12, 2012 – [Locata Corporation](#) confirmed today that the spectacular performance of the company's ground-based LocataNet™ positioning system, recently reported by the USAF after independent testing at the White Sands Missile Range, was correct. The USAF tests showed that a LocataNet can be fully autonomous from GPS, yet simultaneously deliver the same or better positioning, navigation and time (PNT) to aircraft at White Sands as high-accuracy positioning derived from the entire GPS satellite constellation. This is a world-first achievement, which today led to an announcement that Locata has been awarded a ["sole-source" USAF contract](#) to install a LocataNet covering over 2,500 square miles of the White Sands Range in New Mexico.

"I believe today's contract announcement signs off on the USAF's impartial conclusion that Locata is the world's first totally independent back-up for GPS," said Nunzio Gambale, CEO and co-founder of Locata. "We have known for some time that to many in the industry the performance claims we make for a LocataNet sound impossible. Hence to date we've refrained from boasting too loudly about our accomplishments. However, following this contract win, our achievements are just simply undeniable. We can verify that our own tests corroborate the wide-area cm-level accuracy and nanosecond time synchronization reported by the USAF at White Sands. What we have done cannot be replicated by another government – let alone any private vendor. Locata is changing the world's mindset about what will be possible with GPS-style positioning in the future. This USAF contract substantiates the fact that you are seeing the arrival of one of the most important positioning technology developments since the launch of the first GPS satellites."

A demanding USAF-mandated Critical Design Review process led to a closely scrutinized week-long test at the White Sands Missile Range. That testing featured a temporary LocataNet deployed to cover around 1,350 square miles (3,500 sq km) of the Range (see image 1). The flight trials directly compared Locata's small 5" x 5" x 1" positioning receiver against the USAF's current "Truth Reference System" which consists of a large "rack" of equipment on the aircraft described by the military as "arguably the most accurate reference system available for flight and ground testing today (see image 2)."

After the exhaustive aircraft testing, the USAF concluded that the Locata system had not only met the extremely demanding contractual tracking and positioning requirements, but actually exceeded them on many points.

Some of the milestones documented and confirmed by the USAF included:

- **World First Positioning Technology Achievement** – Locata delivered exceptional levels of autonomous performance in the complete absence of GPS. The USAF report documented LocataNet position accuracy of 2.5 inches (6cm) horizontally and 6 inches (15 cm) vertically – about the size of a dollar bill – for aircraft flying at a distance of 30 miles (50km) at up to 350 mph

(550 km/hr) at 25,000 feet. This level of performance without GPS is simply unprecedented.

- **World First Independent Nanosecond Synchronization** – Throughout the period of the testing, the entire White Sands network achieved nanosecond-accurate synchronization within several minutes of the LocataNet being activated, and remained synchronized at that remarkable level – even during severe weather – until turned off at the end of each test. Time synchronization is the most fundamental of requirements for GPS-style positioning, and Locata’s ability to distribute nanosecond timing across the Range without GPS satellites was conclusively proven.
- **Locata Signals Could be Amplified for Very Long Range Performance** – The USAF tests showed that a stock standard Locata transmitter – exactly the same unit used in commercial applications like mining – could have an amplifier attached to easily boost signals for long-range reception. By attaching a simple, inexpensive 10 watt amplifier, the USAF proved that Locata signals could be acquired and tracked by aircraft at distances of up to 60 miles (100 km). Longer distances could be enabled simply by attaching higher-powered amplifiers.
- **Aircraft Dynamics Easily Tracked by Locata Receiver** – Prior to the White Sands flight trials, commercial Locata systems had only been used to position ground-based vehicles, such as cars, trucks, bulldozers and drill rigs in local areas. For the USAF tests, however, the Locata system needed to function under dynamic aircraft operating maneuvers, including banking, angular and linear accelerations, airspeeds up to 300 knots (560 km/hr), and altitudes up to 30,000 feet above sea level. The required aircraft performance was verified in the real-world testing.
- **New Locata Antennas Performed Flawlessly** – the USAF required Locata to design, prototype and then deliver aircraft-certified antennas for use on both the Locata ground-based transmitters and the USAF aircraft. Locata worked with Cooper Antennas Ltd. of Marlow in Buckinghamshire, United Kingdom, to produce an aircraft-certified version of Locata’s new quadrifilar helix antenna design. The Cooper manufactured antennas were used throughout the tests with excellent results, and confirmed Locata’s research and analysis.

“The performance Locata systems demonstrated for the USAF is unmatched by any other technology,” continued Gambale. “The USAF will now use Locata signals to “fill-in” for GPS when the satellite signals are jammed at White Sands. This is a world-first technology for the U.S. military. Locata will supply them with *an always-on positioning network* that works regardless of whether the satellite signals are available or not. The Locata transmitters can be permanently positioned on the Range or moved at will, ensuring that local, reliable high-accuracy positioning and timing is present whenever and wherever it is needed. There is no other technology on earth that can do this.”

The USAF report concludes by stating that Locata is the key component required for the realization of the USAF’s next-generation Ultra High Accuracy Reference System (UHARS) performance in a GPS-denied environment. The UHARS, currently under development by the [746th Test Squadron at Holloman Air Force Base](#), New Mexico, will become the new “gold standard truth system” for the increasingly demanding test and evaluation of future navigation and navigation warfare systems for the U.S. Department of Defense. “Locata is proud to be a core part of this revolutionary USAF positioning development,” states Gambale. “Locata-enabled commercial products already on sale by our partners such as [Leica Geosystems](#) are very important. However, proving Locata can provide the USAF with cm-accurate non-GPS positioning over a huge military area immediately elevates our technology into a completely new league. This validation and contract from the people that invented GPS is a major milestone in our history. Yet it’s critical to understand that the Locata team still has many more world-changing technology advances under development. It’s exciting to be delivering new technology to the world.”

For a complete description of the testing by Desiree Craig, Chief Program Manager for the 746th Test Support Squadron of the 46th Test Group at Holloman Air Force Base, New Mexico, view [this report](#).

About USAF 746th Test Squadron

With over 50 years of experience, the 746th Test Squadron (746TS) – the U.S. 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.locata.com



IMAGE 1: Google Earth depiction of the USAF LocataNet test bed deployed at the White Sands Missile Range.



IMAGE 2: The current USAF “truth system” rack, against which a 5-inch square Locata receiver was directly compared.

###