

## SES, ThinKom and Hughes Enable Multi-orbit Resilient Connectivity for Critical Airborne Missions

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*The demonstrated high-performance solution leverages phased-array antenna and ultra-fast-roaming capabilities between satellites to support critical manned and unmanned C2/ISR government missions*

LUXEMBOURG, Feb. 8, 2023 /PRNewswire/ -- SES, ThinKom and Hughes demonstrated revolutionary high-performance multi-orbit service capable of supporting multiple solutions for government airborne missions, the companies announced today. The open architecture ThinKom ThinAir Ka2517 airborne satcom terminal was successfully demonstrated over SES's Medium Earth Orbit (MEO) and Geostationary (GEO) satellite networks during testing at ThinKom's Hawthorne, CA, facilities and on an aircraft in Mojave, CA. To enable roaming across the satellites, the architecture included the Hughes Network Systems software-defined ruggedized HM400 airborne modem. The testing validated the formal release of the latest ThinAir Ka2517 software, interfacing with the Hughes HM400 modem for MEO and GEO operations.



The latest generation Ka2517 antenna is designed for full commercial Ka-band and mil-Ka band satellites operating over 17.7 – 21.2 GHz (forward link) and 27.5 - 31 GHz (return link), providing governments and the military with broad airborne communications capabilities.

The Ka2517 is based on ThinKom's field-proven patented VICTS (Variable Inclination Continuous Transverse Stub) phased-array technology, that has proven its unparalleled spectral efficiency and reliability with installations on over 1,600 commercial aircraft or more than 33 million operating hours, over eight years of service. The Ka2517 is operational on SES's GEO satellite services and the innovative high-throughput SES-17 satellite. The antennas have also been providing continuous service on U.S. government aircraft for five years, and boast a very low profile, minimizing drag and increasing time on station. The new demonstrated MEO and GEO capability enables industry-leading performance and multi-orbit resiliency for critical mission success, especially in contested environments.

"As the industry shifts towards a multi-orbit model to boost performance and resiliency, ThinKom is leading the way with a flexible open architecture platform to support connectivity from every orbit to every mission," said Bill Milroy, ThinKom's co-founder and Chief Technical Officer. "We are proud to be flying in continuous service on U.S. government aircraft since 2018 and look forward to extending that partnership with the next generation of ThinAir solutions."

"The demonstrated architecture leveraging the phased-array antenna and open-standards modem has the versatility to interoperate with satellites in GEO and non-geostationary (NGSO) orbits, ensuring global connectivity that meets the governments' Joint All Domain Command and Control (JADC2) requirements for multi-orbit operations," said Will Tong, Vice President of Strategic Government Initiatives and head of the Aero ISR market at SES. "This demo showcases that through our partners' and SES's innovative satellite technology, such as the O3b mPOWER system, we can address the rapidly growing sensor needs and future-proof tomorrow's fleets of C2/ISR aircraft programs, enabling manned and unmanned ISR and C2 high-workload missions."

"The success of the Joint All Domain Command and Control mission depends on secure, resilient and reliable high-bandwidth satellite communications," said Rick Lober, vice president and general manager of Hughes Defense and Government Systems Division. "In cooperation with SES, ThinKom and others, Hughes continues to deliver innovative software defined modem technology for missions around the globe, ensuring comprehensive, efficient service delivery for our warfighters."

At the start of operation, SES's O3b mPOWER MEO system featuring thousands of high-performance, low-latency steerable spot beams, will provide truly uncontended seamless connectivity service for sending and receiving high-volume data and unlock full access to real-time information, high-resolution images and video for government airborne missions.

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### About SES

SES has a bold vision to deliver amazing experiences everywhere on earth by distributing the highest quality video content and providing seamless connectivity around the world. As the leader in global content connectivity solutions, SES operates the world's only multi-orbit constellation of satellites

with the unique combination of global coverage and high performance, including the commercially-proven, low-latency Medium Earth Orbit O3b system. By leveraging a vast and intelligent, cloud-enabled network, SES is able to deliver high-quality connectivity solutions anywhere on land, at sea or in the air, and is a trusted partner to the world's leading telecommunications companies, mobile network operators, governments, connectivity and cloud service providers, broadcasters, video platform operators and content owners. SES's video network carries ~8,000 channels and has an unparalleled reach of 366 million households, delivering managed media services for both linear and non-linear content. The company is listed on Paris and Luxembourg stock exchanges. Further information is available at: [www.ses.com](http://www.ses.com).

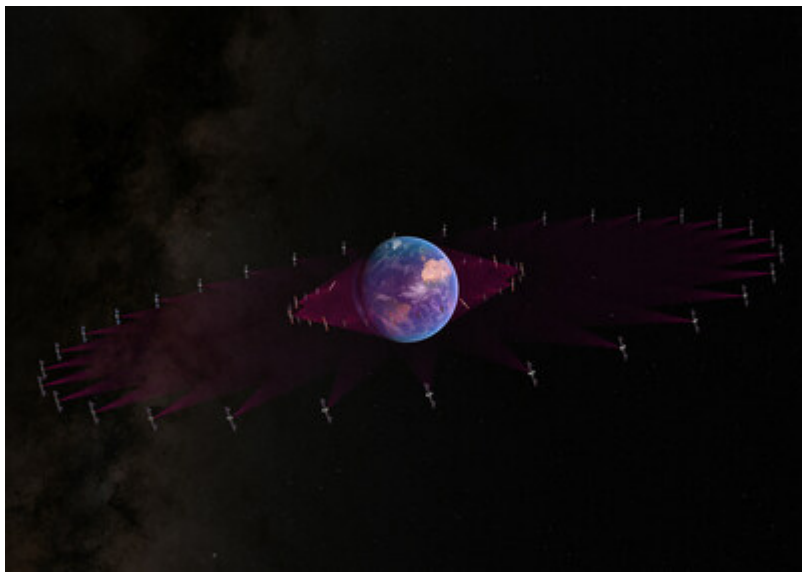
#### About ThinKom Solutions, Inc.

ThinKom Solutions, Inc., is a leading provider of innovative, ultra-low-profile broadband antenna solutions for government and military aviation applications, delivering fast, resilient, and reliable connectivity across a broad range of mission profiles. The ThinAir® product line delivers X-, Ku-, Ka-, Q- and V-band connectivity options suitable for installation on aircraft ranging from small executive transports to large cargo aircraft and is compatible with GSO and NGSO constellations. ThinAir antennas consume less power while delivering high spectral efficiency and greater throughput for a given channel bandwidth. Packaged in a low-drag design to save fuel or increase time on station, ThinAir's proven, proprietary, patented solutions are trusted by leading inflight connectivity providers and government customers around the globe.

#### About Hughes

Hughes Network Systems, LLC, an EchoStar (Nasdaq: SATS) company, provides broadband equipment and services; managed services featuring smart, software-defined networking; and end-to-end network operation for millions of consumers, businesses, governments and communities worldwide. The Hughes flagship internet service, HughesNet®, connects millions of people across the Americas, and the Hughes JUPITER™ System powers internet access for tens of millions more worldwide. Hughes supplies more than half the global satellite terminal market to leading satellite operators, in-flight service providers, mobile network operators and military customers. A managed network services provider, Hughes supports half a million enterprise sites with its HughesON™ portfolio of wired and wireless solutions. To learn more, visit <http://www.hughes.com> or follow HughesConnects on Twitter and LinkedIn.

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