CONNECTING ELITE FLYERS

LuxStream: A Signature Aero Solution

Solution Brief

SES

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likely to carry
multiple devices.

# KEEPING BUSINESS TRAVELLERS PRODUCTIVE AT 30,000 FEET

New momentum around private aviation

As commercial air travel becomes more crowded, unpredictable, and time consuming, a growing number of travellers are looking for more comfortable and convenient alternatives—driving transformation in the private aviation industry. New business models—including fractional ownership, jet cards, and shared flights—are broadening the market, with the number of business aircraft expected to achieve double-digit growth over the next five years.[1]

For private aviation providers, growth comes with new requirements. Elite flyers are hyper-connected travellers, likely to be carrying multiple devices with them. The ability to connect those devices while in the air is important.

Private aviation connectivity enables elite passengers to remain productive while in flight, where they spend, on average, nearly two-thirds of their time engaged in work.[2]

Projected Capacity Demand for Business Jets
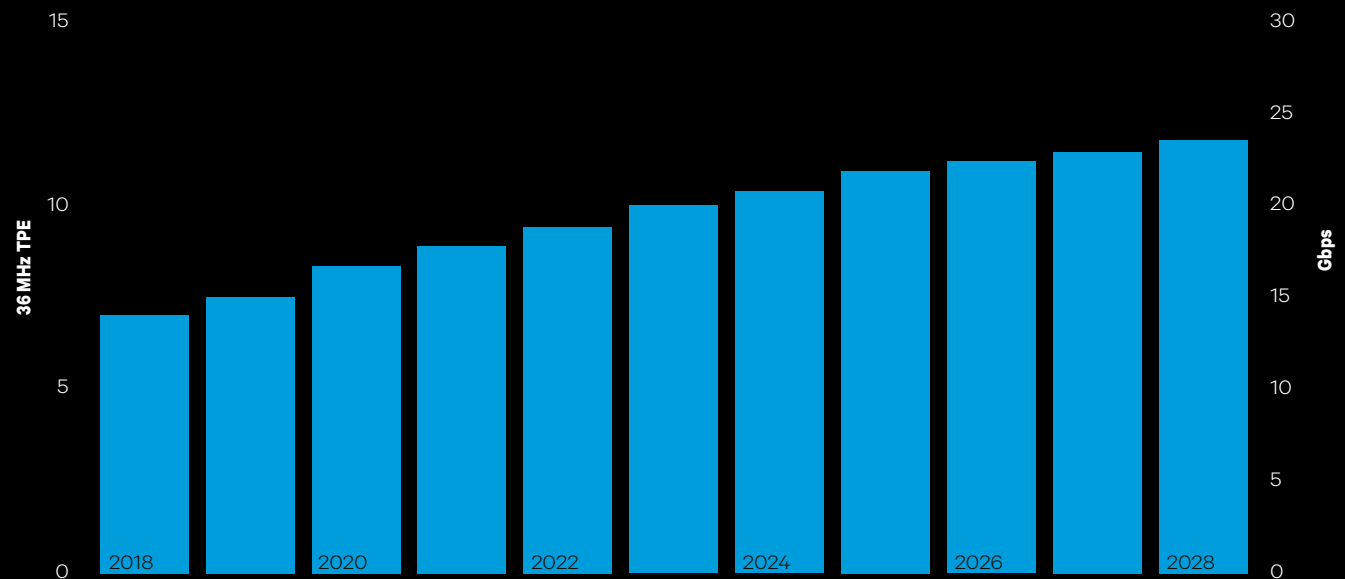
Aeronautical Satcom Markets, 7th Edition, NSR, April 2019.

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1   Bombardier Business Aircraft, Market Forecast 2016-2025,
     https://businessaircraft.bombardier.com/sites/default/files/2018-03/market_forecast_en.pdf
2   The Global Business Traveler Sentiment Index, Global business Travel Association 2019,
   https://hub.gbta.org/groups/reviews/item/20/11/2776

RAISING THE BAR FOR IN-FLIGHT CONNECTIVITY

With the continual adoption and acceleration of bandwidth-intensive services—including cloud-based enterprise applications and streaming media—private aviation providers need to offer more than just basic connectivity to their passengers.

Capacity to address bandwidth demand

Private aviation passengers are more likely to be "power users" of connectivity services, with three-quarters of business travellers reporting that Wi-Fi is vital to being productive while on the road, and two-thirds having more than two connected devices on their person at all times. Private aviation providers need to be able to deliver enough bandwidth to each aircraft to support the demands of their ultra-connected clientele.[3]
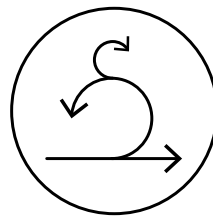
Flexible service models

The private aviation market doesn't typically operate on fixed schedules, and paying to connect an aircraft that is not being flown for a period of time, or has been grounded for maintenance, makes no financial sense. A viable business jet solution needs to enable users to leverage and pay for the connectivity they need, when they need it—without being subject to high fixed charges or volume caps.
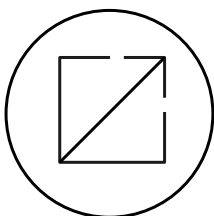
A future-proof solution

As the private aviation market's bandwidth demands continue to ramp up, private aviation operators need the security of knowing that they'll be able to scale accordingly to meet their customers' requirements. This necessitates a business jet service backed by sufficient capacity to provide a superior connectivity experience that can meet bandwidth pressure, regardless of how many aircraft, passengers, and devices are accessing the network.
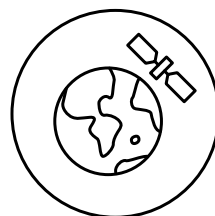
Global reach

A primary advantage of private aviation is the flexibility to travel beyond mainstream air traffic routes. Yet, passengers still expect to be able to access their applications and services, regardless of where the plane may be located, making seamless global connectivity a key feature.

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3   The Global Business Traveler Sentiment Index, Global business Travel Association 2019,
     https://hub.gbta.org/groups/reviews/item/20/11/2776

CHOOSING THE RIGHT SATELLITE PARTNER

The average smartphone generated 2GB of traffic per month in 2017, and mobile-connected tablets and PCs generated an additional 6.8GB, with double-digit growth expected over the next several years.[4]

Mobile users are consuming an ever-increasing amount of data, both on the ground and in the air, creating new pressures for the private aviation market. As passengers increasingly expect in-flight connectivity that is on par with what they receive on the ground, providers risk falling short of expectations if their satellite partner is unable to deliver the required level of service.

High-throughput satellites (HTS) are critical to delivering superior connectivity at 30,000 feet. These next-generation satellites leverage a large number of concentrated spot beams to deliver data up to 20 times faster than conventional satellites. HTS also capitalises on frequency reuse—a technology that enables several beams to reuse the same frequency without the risk of interference—to gain massive improvements in capacity, ensuring that each aircraft has more than enough bandwidth to support even the most hardcore power users—both today, and as in-flight bandwidth demands continue to grow over time.

Equally important is the ground system infrastructure developed to optimise the value of these next-generation satellites. A network comprised of multiple spot beams affords flexibility around how bandwidth is allocated. For example, spot beams can be combined and overlaid with widebeam coverage to ensure service availability in specific high-traffic areas, or bandwidth can be partitioned and a different quality of service assigned to specific sub-networks, enabling customised packages and service plans. Delivering these capabilities requires a ground system built on a flexible core architecture with the processing power to support the high data rates delivered by HTS, as well as a network management system designed for dynamic bandwidth management.

Finally, business aviation providers need to ensure that their satellite operator has a solid long-term strategy specific to their connectivity needs. A satellite roadmap tailored for mobility—with continued investment in capacity over high-density areas, and a focus on global coverage—is essential, as is investment in virtualisation technologies and software-defined networking to improve scalability and service agility.

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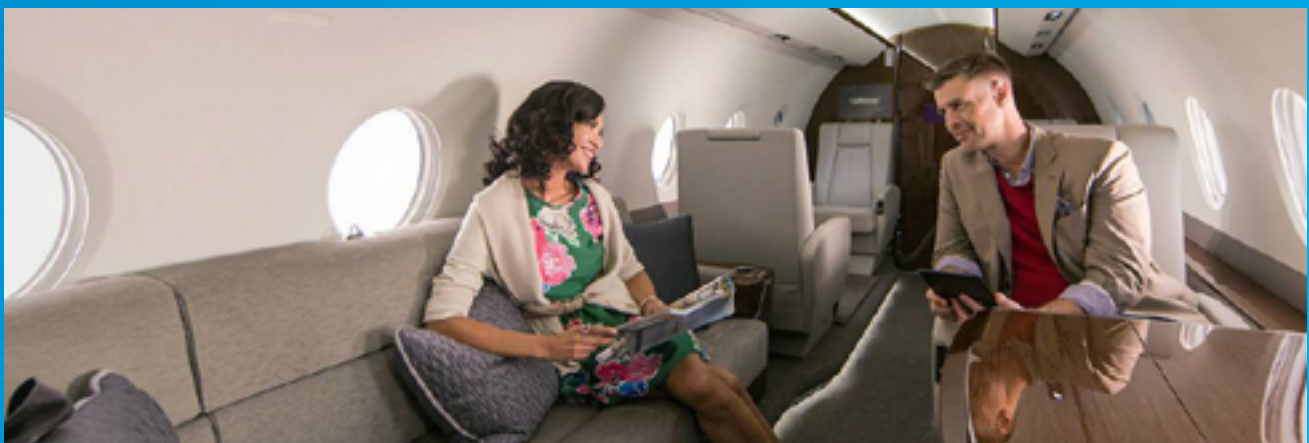
4   Complete Visual Networking Index (VNI) Forecast, Cisco 2016-2021, https://www.cisco.com/c/en_ca/solutions/service-provider/visual-networking-index-vni/index.html

INTRODUCING LUXSTREAM

Developed by SES, LuxStream is a private aviation service that enables our service provider partners to offer their customers an exceptional in-flight connectivity experience.

While many legacy business jet solutions were built on older Ku-band satellite constellations that lack the flexibility, throughput, and global reach required by new, bandwidth-intensive enterprise applications and services, LuxStream is powered by SES's next-generation Ku-band HTS and widebeam satellite technology. The end result is an exceptional connectivity experience that can be tailored to the individual needs of private aviation providers—wherever they may fly.
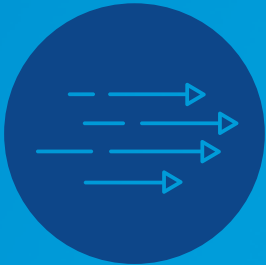
LUXSTREAM GLOBAL COVERAGE

A limitless in-flight connectivity experience designed to offer a new choice for the elite traveller.
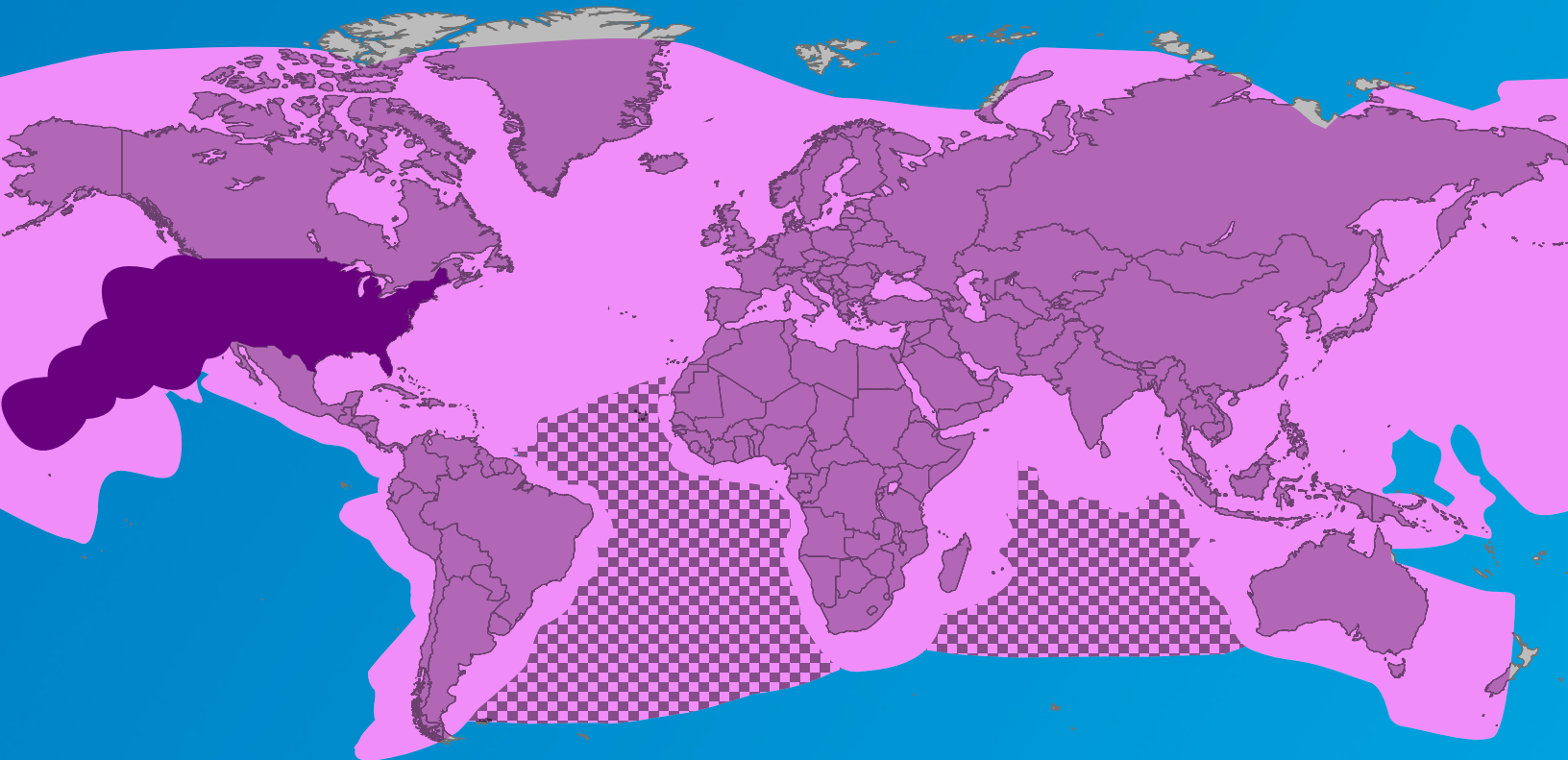
LUXSTREAM GLOBAL COVERAGE

⬤ 15Mbps*   ⬤ 25Mbps*   ✦ Near Future Coverage

*Maximum data speeds
Service availability is subject to parameters such as regulatory approvals.

THE HIGHEST DOWNLOAD SPEEDS IN THE AVIATION MARKET

Passengers can enjoy up to 25Mbps over the continental United States, which sees over 70% of the world's private aviation traffic, and up to 15Mbps elsewhere in the world. This level of throughput is enough to support all business passengers' broadband needs, including access to cloud-based applications and streaming Ultra HD video.

THE NEWEST HIGH-THROUGHPUT SATELLITES IN THE MARKET

With the highest available HTS capacity over the continental US, and from the US west coast to Hawaii—along with an extensive network of widebeam satellites—our combination of two fleets delivers the network redundancy and resilience necessary to ensure a consistent, disruption-free experience, regardless of the flight route.

A NEXT-GENERATION GROUND SYSTEM

Developed specifically for high-throughput satellites, and optimised for mobility segments such as private aviation, our ground system includes features like fast reacquisition of the satellite after blockage, make-before-break, and contention-based acquisition—allowing fast-moving aircraft to automatically cross multiple spot beams with no impact on connectivity, while software-defined remote terminals reduce the need to install new hardware on the aircraft.

A GLOBAL, DEDICATED BUSINESS AVIATION NETWORK

Our aviation network is not shared with commercial airlines or consumer broadband, and covers 99.63% of business jet flight time. Business travellers cannot afford to check their productivity when they board the aircraft. LuxStream enables the business jet to become an extension of passengers' home and corporate networks, allowing them to access the same services, applications, and entertainment in the air as they do on the ground—wherever they fly.

Ready to keep your elite travellers connected wherever they fly?

getconnected@ses.com

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