Viasat

Aero Services
For **Government**

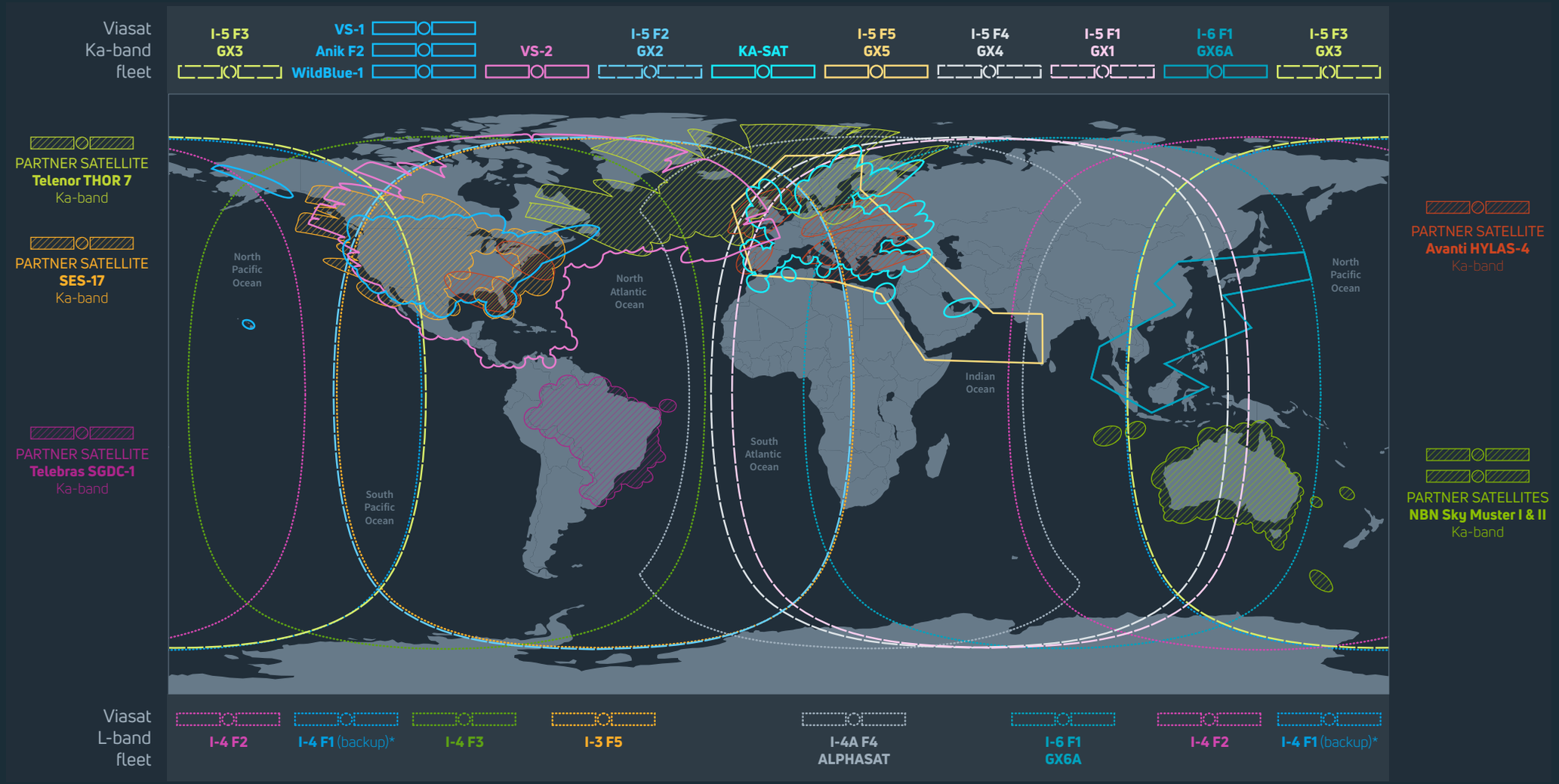
REAL BROADBAND...

IN THE SKY

Viasat's Aero solutions for government share a common theme – maximising operational capability and providing the same connectivity in the air that you have grown to expect on the ground. Aircraft are expensive assets to maintain and the inclusion of a fit-for-purpose satcom solution will often lead to greater results being achieved out of every mission.

By enabling important information to be shared with crews, whether from the ground, another aircraft or simply with one another, a single Viasat installation supports a wide range of uses in the cockpit and cabin. From safety communications and weather and flight-plan updates, to VIP connectivity for email, internet access, voice over IP (VoIP) telephones, GSM and SMS messaging. For ISR missions, real-time situational data transfer enhances operational awareness, while mission and control benefit from a live aerial perspective, enabling informed decision-making.

Viasat **current combined coverage**



*I-4 F1 repositioning

For illustrative purposes only. Coverage is approximate and subject to change. Not representative of any single product or service.

SCALABLE SOLUTIONS

Viasat in-flight communications have evolved to meet the demands of just about every airframe, operational requirement, and budget.

We own and manage our fleet of high-speed, high-capacity Ka-band satellites and resilient L-band satellites, optimised for growing broadband demand. Instead of a patchwork coverage stitched together from different operators, our network is wholly-owned and completely integrated. We offer a continuous, uninterrupted service, and traffic is handed seamlessly from one beam to another as aircraft fly across time zones, delivering the best possible experience for crew.

Within the aeronautical sphere, there is no such thing as a one-size-fits-all. That's why we work with a network of trusted technology partners to deliver scalable solutions for government aircraft requirements. And whilst our services have evolved, so too have the products developed by our technology partners. There is now a terminal and antenna to meet the demands of just about every air frame.

Our equipment partners are constantly delivering innovations to reduce the cost, weight and size of equipment, with technologies that can be line- or retrofitted.

Working with these trusted partners, we can create competitive, flexible solutions, reflecting the individual needs of government users. And because we own and operate the satellites and ground networks, we can increase capacity to meet surges in demand for additional bandwidth.

A **RANGE** OF L-BAND ANTENNA **SOLUTIONS**

SwiftBroadband operates over Viasat's I-4 satellite constellation, covering all major aviation routes. Our L-band network can be relied upon by governments, with the redundancy and resilience to guarantee 99.9% network availability.

Each I-4 satellite combines 228 spot beams with 19 wide beams; capable of providing up to four channels of 432Kbps to a High Gain Antenna. There in total four I-4 satellites operating in the L-Band network in orbit, providing additional capacity over 33% of the globe's coverage area. SwiftBroadband offers three primary antenna options to suit differing aircraft and bandwidth requirements:

High Gain Antenna (HGA)

432KBPS

SwiftBroadband HGA delivers up to four channels per aircraft for simultaneous voice and data communications. Always-on data up to 432kbps per channel, HDR data rates up to 700kbps on demand, and full-channel streaming with SwiftBroadband X-Stream. A range of terminal equipment is available from Cobham, Honeywell, Rockwell-Collins and Thales.

Intermediate Gain Antenna (IGA)

332KBPS

SwiftBroadband IGA combines high-quality voice communications with a symmetric, background data connection of up to 332Kbps per channel. Up to four channels per aircraft for concurrent voice and data links, with the ability to add four more VoIP connections. A range of guaranteed data rates can be also selected up to 128kbps, and up to 500kbps with HDR. A range of terminal equipment is available from Cobham, Honeywell, Rockwell-Collins and Thales.

Low Gain Antenna (LGA)

200KBPS

A single channel system supporting high-quality voice, plus always-on data at up to 200kbps per channel and guaranteed rates of eight, 16 and 32kpbs, via a low gain antenna. Terminals available from Cobham and Honeywell.

L-TAC

UHF AND VHF RADIO **COMMUNICATIONS**

Customer challenge

To find a solution that allows users to maintain command and control over widely dispersed elements operating over land, sea and air, in harsh and hostile environments. Deployment must suit high tempo operations and not be delayed waiting for terrestrial communications to be established.

Requirement

UHF TACSAT channel availability is limited to a small number of high priority users and is expensive. An alternative is needed that increases the number of channels using commercial satcom as a complementary service. It must provide users voice and data capability over tactical, theatre and strategic distances, utilising existing tactical radios. This will enable command and control and mission planning to be exercised from the air, in addition to maintaining communications with all forces during airborne deployment.

Solution

SlingShot® - Spectra's small, lightweight, and cost effective appliqué allows military and commercial radios to operate over commercial satellite L-band.

It provides low-latency voice and data connectivity to tactical radio networks and, optionally, a strategic headquarters. The aviation capability extends the SlingShot solution to multiple aircraft platforms, with the walk-on fit providing a simple and flexible installation option.

L-TAC™ - Viasat's I-4 communications network provides L-band to L-band, beyond line of sight, communications from a global constellation of geostationary satellites.

L-TAC features

- Designed for the I-4 constellation
- Omni-directional antenna
- Radio agnostic
- Utilises narrow beams, regional beams and customised beams
- Exceptional size, weight & power characteristics
- UHF & VHF military and commercial frequencies
- HPW and Viasat proven up to 56kbps

L-TAC benefits

- Access for land, maritime and aviation platforms
- Proven worldwide connectivity
- Communications on the move at speeds up to 220kph
- Keep existing technology and security
- Maximum flexibility in high tempo operations
- Excellent for sustained communications on the move
- Interoperability between agencies using different systems
- Reliable data and image transfer

VuaLe

EXTENDING UAV OPERATIONS BEYOND LINE OF SIGHT

VuaLe is our dedicated satellite service for UAVs that provides dependable connectivity and enables reliable data transfer and rapid decision-making. It delivers secure, robust communications through both L-band (99.9% reliability) and Ka-band (high-speed, high-capacity) networks.

With lightweight terminals and global coverage, essential for surveillance, reconnaissance, and long-range missions, VuaLe provides real-time beyond line of sight data transfer, centralised control, and mission-critical performance.

A product for every aircraft and mission

Our comprehensive product portfolio ensures there is an option to suit every kind of mission.

Group 2 **LALE**

Altitude: <3,500 ft
Endurance: <24 hours
Weight: 20-55kg
Services: SwiftBroadband, Uncrewed Air

Group 4 & 5 **HALE**

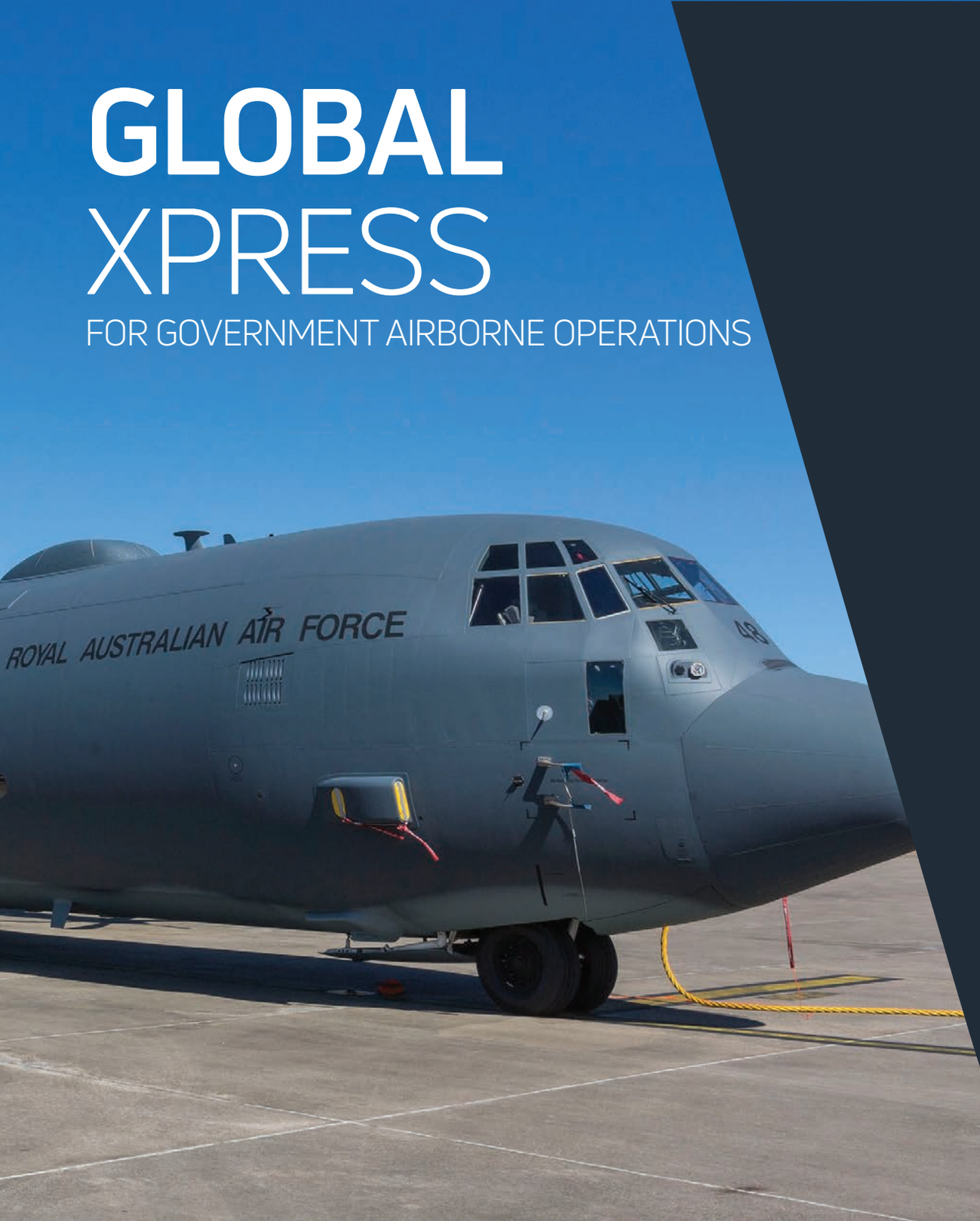
Altitude: >18,000 ft
Endurance: >32 hours
Weight: >600kg
Services: SwiftBroadband, Uncrewed Air, L-MAX, G2X Air, G2X Air Plus, K-MAX

Upper group 3 **MALE**

Altitude: <18,000 ft
Endurance: 24 – 48 hours
Weight: <600kg
Services: SwiftBroadband, Uncrewed Air, L-MAX, G2X Air, G2X Air Plus, K-MAX

GLOBAL XPRESS

FOR GOVERNMENT AIRBORNE OPERATIONS



Purposely designed for mobility, Global Xpress delivers a secure, worldwide Ka-band network created for highly flexible government airborne operations.

Governments the world over rely on Viasat for mission-critical communications in some of the most volatile regions of the world. Built from the ground up with highly mobile government users in mind, Viasat's Global Xpress brings reliable offerings and capabilities for both manned and unmanned airborne operations.

User Requirements

Whether pursuing tactical objectives in theatre, connecting in-flight government officials to ground-based resources, or conducting other airborne operations, users depend upon communication services which function just as well in the air as they do in the office.

Similarly, Intelligence, Surveillance, and Reconnaissance (ISR) unmanned aerial vehicles (UAVs) and other aircraft consume large quantities of bandwidth in order to transmit video and other images from sky to land. There is a significant push within the ISR community to deploy as many sensors as possible to maximise the effectiveness of intelligence gathering.

Augments existing systems

Global Xpress complements the Wideband Global satcom (WGS) system and providing uniform Ka-band coverage delivered as 'Satcom as a Service' via Military-Ka lease. It allows government customers to quickly and cost-effectively augment the WGS system whenever – and wherever – needed.

Ka-band is especially well-suited for optimal coverage and consistent performance along heavily travelled air routes. Viasat's Global Xpress Ka-band service is backed-up by our SwiftBroadband L-band service over the I-4 satellite constellation, thus further guaranteeing global portability and consistent performance with high throughput and industry-leading all weather availability.

Redundancy and Security

The redundancy introduced into Viasat's ground infrastructure ensures robust terrestrial links to support government communications. Government users can trust that our secure network infrastructure provides reliable assured access that is built to meet cyber security best-practices and is supported by a dedicated cyber security team. Global Xpress commercial services and infrastructure are built to meet U.S. DoD 8500 Mission Assurance Category (MAC) level III/ National Institute of Standards and Technology (NIST) 800-53 Low Assurance standards. The Global Xpress secure enclave and network can be built to meet higher security standards requirements.

Applications enabled by Global Xpress

- Manned/unmanned Airborne Intelligence, Surveillance and Reconnaissance (AISR)
- Live full-motion video
- Operational theatre backhaul
- Tactical communications
- Video teleconferencing
- Command and control (C2)
- Situational awareness
- Battlefield information systems
- IP multicast
- Disaster recovery
- Emergency response

Global Xpress benefits

- Worldwide wideband coverage
- Seamless mobile roaming
- Interoperable with government military Ka-band systems
- Steerable beams for flexible network capacity
- Redundant terrestrial infrastructure
- Smaller, easy-to-use terminals
- Customised solutions

Air-IQ

THE INTELLIGENCE YOU DEMAND AT THE SPEED THEY NEED

Air-IQ is the ultimate connectivity solution for crewed and uncrewed intelligence, surveillance, and reconnaissance (ISR) aircraft. It delivers high throughput and prioritised uplink for decisive tactical advantage, all while meeting strict security standards. Air-IQ balances reliability with versatility, providing coverage wherever and whenever it's needed.

Air-IQ offers two service levels today. A premium private managed lease service and a shared regional managed service.

K-MAX

The K-MAX service is a premium private managed lease that uses either on-net or off-net capacity to deliver an extra layer of connectivity and performance, treating G2X Air or G2X Air Plus as a tiered fallback. Delivering up to 10 x baseline CIR using multi-beam Ka-band leasing, it enables high-return throughputs within the beam defined area (on-mission) and seamless switching to a global GX plan outside of that area (off-mission). This airtime package supports multiple missions under one subscription and provides ISR operators with more flexibility to suit changing operational needs.

G2X Air and G2X Air Plus

The global G2X Air and G2X Air Plus services provide industry-leading SLAs with unlimited data and connectivity certainty. With return links up to three times the baseline global CIR on a strictly regional basis, and flexible airtime packages, the services enable terminals to seamlessly roam between higher throughput regions (on-mission) and a global connectivity service outside the region (off mission).

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