

Air-IQ™

The intelligence you demand
at the speed they need.

Viasat™ 

Air-IQ: an aerial view

Made for the mission

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.

Flexibility for better optimisation

Designed to be the ultimate ISR toolbox, Air-IQ service-level agreements (SLAs) flex around the needs of every mission. Air-IQ makes it possible to manage multiple aircraft through a single contract, with user-defined regional uplink prioritisation for greater commercial efficiency.

A partner you can trust

With over 40 years of satcom experience and long-standing relationships with governments, Viasat can take the complexity out of ISR connectivity. Our solutions are easy to use, maintain, and upgrade, so you can stay focused on the mission. We back this up with 24/7 technical support, as well as proactive monitoring and maintenance.

Delivering future-proof solutions

Our solutions evolve at the pace of our rapidly changing world — or even faster. Viasat's detailed technology roadmap ensures that Air-IQ not only meets your current needs but can help you prepare for the future.





Your priorities are our focus

ISR aircraft need to be able to share clear images and videos, and to receive mission directions in real-time. These operations often require high throughput from the aircraft, supporting bandwidth-hungry and time-critical applications.

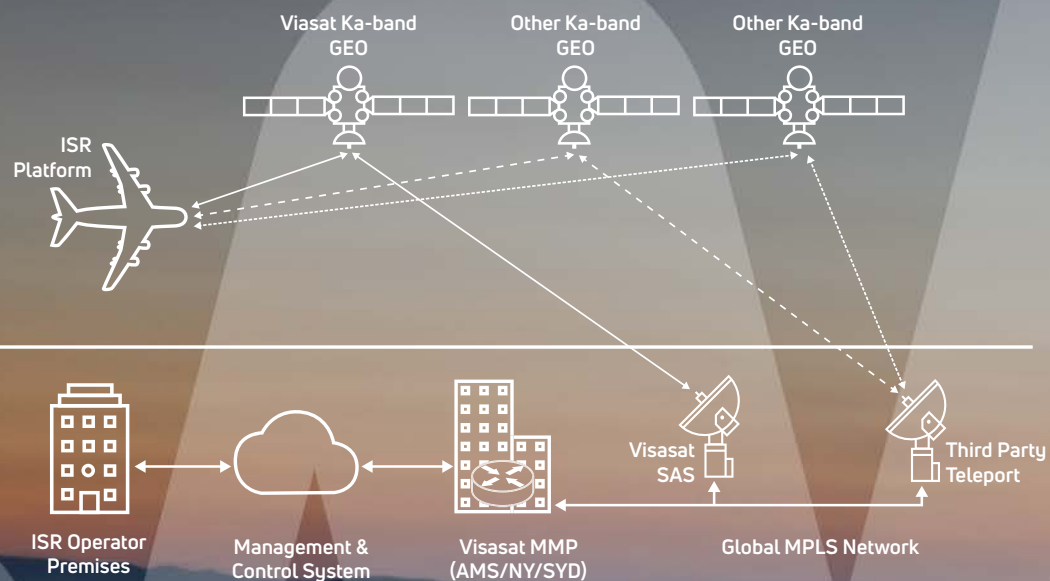
Air-IQ is built around your priorities.

- **High bandwidth on the return path**
Air-IQ provides the flexibility to access higher bandwidth for more sophisticated mission requirements.
- **Reliability**
Committed service levels and resilient communication solutions help improve PACE planning and provide confidence when operating in contested environments.
- **Security**
Air-IQ helps to ensure low probability of intercept/low probability of detection, enabling anti-jamming, data encryption, and network security monitoring.
- **Flexibility**
Maximize cost efficiency by harnessing Air-IQ's flexible commercial offers, which can be adapted to meet mission needs.
- **Sovereign augmentation**
Increase sovereign capability by augmenting indigenous solutions with Viasat's compatible commercial terminals and technology.

Air-IQ is for every aircraft and every mission

As a truly comprehensive solution, Air-IQ includes airtime service, aircraft fit-out, ground segment, and control platform. As the backbone of mission-critical applications, it:

- Delivers high bandwidth return path connections via a variety of connectivity paths.
- Augments sovereign capabilities through seamless roaming between networks and services.
- Provides a secure, self-service control platform.



Connectivity that changes on demand

Air-IQ enables seamless switching between different types of technology, delivering the most suitable, on-demand return throughput.

Your ISR platform has a global baseline capability upon take-off, with enhanced capability as it moves closer to the region of operation. Time-division multiple access (TDMA) technology provides a committed data rate in this area. You can even ramp up that capability via dedicated, lease-based single channel per carrier (SCPC) technology to facilitate highly sophisticated ISR on-spot activities. Multi-layer connectivity ensures a high level of resilience.

When the mission is completed, Air-IQ rolls back to either regional or global packages for the remainder of the non-critical journey.

- The global G2X and regional G2X Air Plus services provide industry leading SLAs with unlimited data and connectivity certainty.
- The K-MAX service 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.



Airtime services

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

- **K-MAX**

Provides return link bandwidths up to ten times the baseline global return CIR and above. The service is based on multi-beam Ka-band leasing, enabling high-return throughputs within the beam defined area (on-mission) and roaming to/from a global GX plan outside of that area (off-mission). Multiple simultaneous operations can be supported under a single monthly subscription-based lease. This airtime package provides ISR operators with more flexibility to choose and manage throughput to suit changing operational needs.

- **G2X Air Plus and G2X**

Allows return links up to three times the baseline global CIR on a strictly regional basis. It enables a terminal to seamlessly roam between a higher throughput region (on-mission) and a global connectivity service outside the region (off-mission). Both monthly subscription and occasional use options are available.



Aircraft fit-out

Air-IQ offers essential hardware components for aircraft fit-out. Establish an effective mission communication system with an ISR terminal and enhanced G-MODMAN.

G-MODMAN integrates with various types of waveforms. The G-MODMAN OP (open platform) — effectively an arbitrator — manages the seamless switching.

The Air-IQ hardware portfolio offers the flexibility to choose the airborne terminal that best fits your ISR platform and makes modem integration easy. You can even incorporate your own preferred modem.

Air-IQ's openness gives governments great interoperability when interfacing with their own sovereign satcom capability. It enables switching, management, control, and monitoring independently, enhancing the security of your satcom connectivity.

The all-in-one G-MODMAN and OP includes:

- G-MODMAN III, a single modem unit, including both the IQ-800 based GX modem and the G-MODMAN OP switching capability, plus the space for a second, internally integrated modem card, as well as two external slots for modem cards
- G-MODMAN connected to an external SCPC modem for seamless switching between a GX subscription, a G2X Air Plus subscription and a K-MAX lease service
- Multiple ways to switch based on geolocation via a web UI or remote APIs
- Increased processing power to enable future SD-WAN integration without additional equipment.

Air-IQ also offers a portfolio of terminal options:

- Antenna type (i.e. parabolic or flat panel array)
- Aperture (i.e. 30cm or 46cm, or equivalent)
- Frequency band (i.e. Ku, Commercial Ka, or Mil-Ka)
- Aircraft fitting (i.e. fix mount — tail and fuselage — or roll-on-roll-off)
- Antenna manufacturers (i.e. built by Viasat in-house or Viasat ecosystem)
- Aero SCPC modem (i.e. Viasat in-house made or Viasat ecosystem built)





Ground infrastructure

Air-IQ offers a highly secure, dual redundant global infrastructure to support end-to-end connectivity. All AISR traffic is routed, switched, managed, and protected in a fully closed private network.

It establishes physical presences and cross-connects at:

Meet-Me-Point (MMP)

- Equipment deployed at AMS, SYD and NY in a secure enclave (one in and for each ocean region), and with MPLS interconnect across the MMPS.
- Cross-connect with Viasat government network.
- Interface with customers for last-mile connectivity.

Satellite Access Station (SAS)

- Equipment deployed at each of the Viasat ground stations in a secure enclave, including R&S devices, firewalls, dedicated modems, etc.
- MPLS interconnect to the relevant regional MMP.

A man in a military uniform is shown in profile, looking towards the left. The background is dark with a large, stylized, semi-transparent 'W' shape. The lighting is dramatic, with blue and red hues.

Air-IQ digital platform

Operation and management of Air-IQ services is handled via a secure control platform.

The Air-IQ digital platform is built on the INVISON software, developed as part of the European Space Agency (ESA) project.

Hosted on highly secure private cloud infrastructure, the Air-IQ digital platform provides a single storefront for end users to operate, manage, control, and monitor their Air-IQ services. It gives operators the flexibility and visibility they need to manage and control their missions dynamically. Configuring services is easy too. Air-IQ offers on-demand network/service switching within set-to-work parameters, as well as advanced traffic management and system integration via the SD-WAN capability.



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