A Nose-to-Tail Success Story

How Inmarsat and Honeywell have set the gold standard for business aviation connectivity







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Addressing the needs of a fastevolving market

Today's business leaders need – and expect – the same standards of connectivity in the air as on the ground. They won't tolerate risk or unreliability.

So, when it comes to choosing an inflight connectivity solution, operators know that it pays to choose the best. And they trust Inmarsat to deliver.

Inmarsat has been providing gold standard connectivity to business aviation for over 30 years. While other providers might be constrained by regional restrictions or rely on patchwork constellations they don't control, Inmarsat's services are seamless, reliable and global. The fact we own and operate our Ka-band and L-band satellite networks gives us complete control of performance and availability. Honeywell and Inmarsat have partnered for over 25 years. We built cockpit satcom systems collaborately, which grew into SwiftBroadband solutions. Our relationship's inflection point was the launch of the JetWave satcom system and Jet ConneX solution where our complementary skillsets met a need and answered the key question: 'how do I get a global, seamless Internet experience with high throughput on the aircraft?'

Adam Sheppard. Director Aircraft Connectivity. Honeywell Aerospace



Fully integrated solutions

For more than 25 years, Inmarsat has been proud to partner with Honeywell as our Terminal Development Provider and Value-Added Reseller in the business aviation segment. This increasingly close, long-term collaboration has brought inflight connectivity to over 5,500 business jets throughout the world using Inmarsat's SwiftBroadband and Jet ConneX solutions.

Inmarsat and Honeywell deliver the most advanced inflight connectivity available, working closely with operators to understand their aircraft, travel patterns, desired capabilities and budgets, so we can build bespoke, fully integrated solutions.

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Together, both companies we provide more than connectivity. We offer total confidence in the services we deliver. It is confidence built on the coming together of the best network, the best hardware and software, and the best service provider, with a shared knowledge and passion for business aviation.



Honeywell and Inmarsat are joined at the hip. We're a family: one with a great past and an even better future. And as long as we stay that way, we're going to come out on top – together 44

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Arno van der Kraan, Snr Director Global Partnerships & Honeywell Global Account Director, Inmarsat





Developing the relationship

When Honeywell and Inmarsat first locked eyes over the boardroom table, the relationship between the two companies was more transactional. Honeywell's focus was on manufacturing the hardware for satellite communication terminals on business jets, rather than offering connectivity services.

But that all changed in 2011 when Honeywell acquired a company called EMS

Technologies, a specialist in connectivity solutions for mobile networking, mobile computers and satellite communications.

The acquisition allowed Honeywell's world-renowned avionics expertise to migrate seamlessly into the satcom industry and take a more service-led position. As a result, the relationship between Inmarsat and Honeywell has evolved enormously in the last decade.

Honeywell built the hardware, so we have intimate knowledge of satcom and can diagnose hardware issues. Inmarsat can diagnose any end-to-end network connectivity issues. And because we built the system together, we can make those diagnoses faster and more accurately than anyone else in the services market.

Adam Sheppard, Director Aircraft Connectivity, Honeywell Aerospace





Seeing satcom as a service

Honeywell soon started to explore what the next generation satcom solution could be. They asked themselves how they could deliver better growth for their business, while improving customer experience and lowering costs.

The timing was perfect. Honeywell was looking for new opportunities for the next generation satcom and Inmarsat was launching a seamless global network. The two were made for each other, and closer collaboration was the natural step forward.

Honeywell installed the initial solution on their own aircraft as a proof-of concept test, working through every step with Inmarsat. They operated as one team, not two separate entities. And from that point the relationship has gone from strength to strength.

Both businesses now see the development of world-class satcom as a joint enterprise: a single mission on which they have jointly embarked and to which they are totally committed. Crucially, both understand and appreciate - the power of partnering and what it can achieve.

Keeping customers coming back for more

The relationship between Honeywell and Inmarsat today is deeply entwined, extending beyond business aviation to commercial airlines and government. There's a constant exchange of ideas between the two, with both businesses interacting many times a day across all departments.

But the focus is always on customer satisfaction and support. Both businesses share a passion for ensuring that

customers have the best products and services. And both aim to create a seamless 24/7 experience by quickly addressing any questions or issues.

A fast and effective response is key. Whether it's platform hardware that needs to be replaced or a back-end network that requires tweaking, we're always looking for ways to trim turnaround times and make our customers even happier.

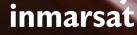


A cabin-to-cockpit relationship

From cockpit to cabin, Honeywell brings a unique business aviation knowledge and experience to the relationship. It's a neat fit with Inmarsat's vision of how we want to bring service to the aviation industry in general, and to business aviation in particular. We have the shared goal of delivering the very best in noseto-tail connectivity: from critical cockpit communication and safety services, to cabin connectivity for passengers and crew.

As in all the best relationships, the partners possess different, yet complementary, strengths. Honeywell as the manufacturer of the terminal, and Inmarsat as the owner and operator of the satellites. Indeed, it's fascinating to look back and see how that relationship has evolved. It all began with Classic Aero, a telex service in the sky.

Then came Swift64, which delivered 64Kbps. SwiftBroadband (SBB) has been our flagship L-band service for business aviation since 2009. With consistency and performance by design, it offers reliable inflight voice and data connectivity with global coverage that is always available to meet the core needs of users, regardless of which aircraft type is being operated or which route is being flown across the world. This helps to ensure the needs of business aviation passengers and crew are being met, from in-seat mobile phone and text services to emails, browsing and media streaming.



A new era for L-band connectivity

Looking ahead, SBB will be superseded by the enhanced capabilities offered by our new SwiftJet solution, which enters commercial service later this year.

And now, of course, we're talking maximum speeds of 2.6Mbp. That's up to six times faster than SBB, making it the world's fastest L-band inflight connectivity service for business aviation. This allows passengers to create a secure 'office in the sky' with enhanced capabilities for video calls, web browsing, email, texting, cloudsyncing and collaboration tools such as Microsoft Teams. Social media and video apps such as YouTube, which were previously challenging over L-band, will also be enabled. SwiftJet represents the latest leap forward for inflight connectivity, combining Inmarsat's commercial satellite capabilities and Honeywell's advanced hardware, which can be installed on a broad range of aircraft and also supports cockpit and safety services. Crucially, the relationship has developed a straightforward upgrade path for its existing SBB customers, giving them easy access to unprecedented internet speeds over L-band with minimal changes to the installed equipment. tNew customers will experience the same ease of installation as with any Inmarsat L-band terminal.

Reinforcing the close relationship, Honeywell has also signed to become one of the first global distribution partners for SwiftJet.

Our two companies undertook the challenge to use existing assets to create a better experience for business jet passengers. Combined we are worldbeating: Inmarsat has the best network and Honeywell the best service offerings. And SwiftJet was the result.

Steve Hadden, General Manager, Hardware and Services for Connectivity, Honeywell



New trends in jet ownership

When the cost of a seat is not your prime consideration, it's clear that private jet ownership offers business leaders much greater speed, flexibility and convenience than conventional First or Business Class travel with airlines.

However, there's another reason why so many have been joining the private jet set: Covid-19. After experiencing the initial downturn common to businesses worldwide, the pandemic had a surprising impact on the Business and General Aviation (BGA) segment by bringing new factors into the air travel equation that boosted business. Seeking the safety and security of private jet ownership, while also seeing it as insurance against any future restrictions on commercial travel, there are now more first-time owners in business aviation than ever before.

Aircraft are also changing ownership more often. Customers with entry-level aircraft are upgrading earlier to larger business jets. This, in turn, has opened the space for more first-time buyers to acquire a business jet. And rather than manage the jet themselves, there's a growing trend to leave it in the care of an aircraft management company – another burgeoning industry.



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The upload inflight generation

A survey commissioned by Inmarsat and Corporate Jet Investor (CJI) confirmed these developments. It found that almost 80% of respondents around the world believe more frequent business aviation flights will be taken in the next year. And 90% feel that online activities will dominate principals' time in the air.

Indeed, because first-time buyers are younger and have grown up in an era where always-on connectivity is the norm, they have greater expectations of their aircrafts' communications prowess. For example, older users would primarily download documents to read on their journey. That's not the case for today's younger users, who expect to upload data on demand – including large video and image files – and consequently require much faster upload speeds. That means entry-level jets now require connectivity levels previously found only on midsize and long-range aircraft.

This is precisely the need that our Jet ConneX solution has been designed to meet. Jet ConneX entered commercial service in 2016 and offers the same level of reliable, consistent and high-speed inflight broadband that was previously only available on the ground, keeping even the most demanding of airborne uploaders happy. Activated on more than 1,400 business jets worldwide, it has achieved record usage since the pandemic. This is testament to fast-growing passenger expectations when it comes to staying connected and enjoying a digital onboard experience that supports video streaming, live TV, business activities and more.

The bottom line is that life is moving more online and becoming more digitised. It doesn't stop when you get on a jet. So, the on-aircraft connectivity experience must change and adapt to the higher expectations of today's business jet passengers – and tomorrow's.

Adam Sheppard Director Aircraft Connectivity Honeywell Aerospace



An even betterconnected future

As we've seen, the business jet sector is growing. And the future is all about increasing connectivity: connected cockpit, connected cabins with increased data rates, and seamless transition from applications, whether it's social media, an office tool or downloading/uploading content.

Both Honeywell and Inmarsat recognise the huge opportunities for mutually beneficial growth and are committed to building even deeper, more fruitful, operational collaborations. We've already built so much by collaborating. And we are constantly improving our complementary offerings.

Inmarsat and Honeywell have an extremely successful track record of working together in the business aviation market. Our combined market know-how, out-of-the-box thinking and technology innovation has enabled a large global customer base to enjoy gold-standard inflight connectivity, wherever and whenever they fly. With demand continuing to grow and the latest service enhancements now coming to the market, our partnership is well placed to keep building on this momentum in the long-term.

Kai Tang. SVP Business and General Aviation. Inmarsat





Ground-breaking upgrades

SwiftJet has created much excitement in the business since being launched, as it will offer speeds up to six times faster than Inmarsat's SBB inflight connectivity solution over L-band. In addition, it will enable existing SBB customers to benefit from a natural upgrade path without needing to replace any externally mounted aircraft equipment, while new customers will experience the same ease of installation as with any Inmarsat L-band terminal. This will offer a particularly compelling solution for smaller jet owners, who have previously been restricted to basic voice or text connectivity that fails to meet the needs of modern-day travellers.

Jet ConneX is also benefitting from major upgrades to provide customers with even greater performance, speeds and value for money as part of Inmarsat's groundbreaking JX Evolution programme. This follows an extensive assessment of passenger usage trends and will raise the bar even further, allowing passengers to connect more devices and enjoy unchallenged access to the most datahungry applications simultaneously, without compromising on Jet ConneX's proven characteristics of consistency, reliability, resilience and seamless global availability.

It's all about anticipation. It's our job to make sure that we stay ahead of demand and anticipate where people will fly, and what they need on their aircraft. That's why we're investing non-stop in new tech, new satellites, new terminals, and new relationships.

Arno van der Kraan, Snr Director Global Partnerships & Honeywell Global Account Director, Inmarsat



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Keeping our promises

JX Evolution includes the upgrades to existing service plans that deliver valuable customer benefits such as increased upload rates at no additional cost. This meets growing demand for Inmarsat-6s, the most sophisticated high-definition video conferencing on collaborative platforms, including Microsoft Teams and Zoom.

Inmarsat has also announced a new range of service plans introduced to redefine gold standard connectivity in the business aviation market and satisfy even the most data-hungry users for many years to come. These latest service plans are available for new and existing The expanded satellite network will be customers to order from Honeywell today, marking a step-change in performance that is backed by guaranteed speeds and Inmarsat's hallmark consistent customer experience.

JX Evolution is a prime example of Inmarsat's unique build-up approach, which cannot be replicated by others and presents a welcome alternative to the over-promising and underdelivering of some connectivity providers. It leverages Inmarsat's existing global Ka-band satellite network and Honeywell's highly successful JetWave terminal

Customers will soon benefit from further performance enhancements with seven more

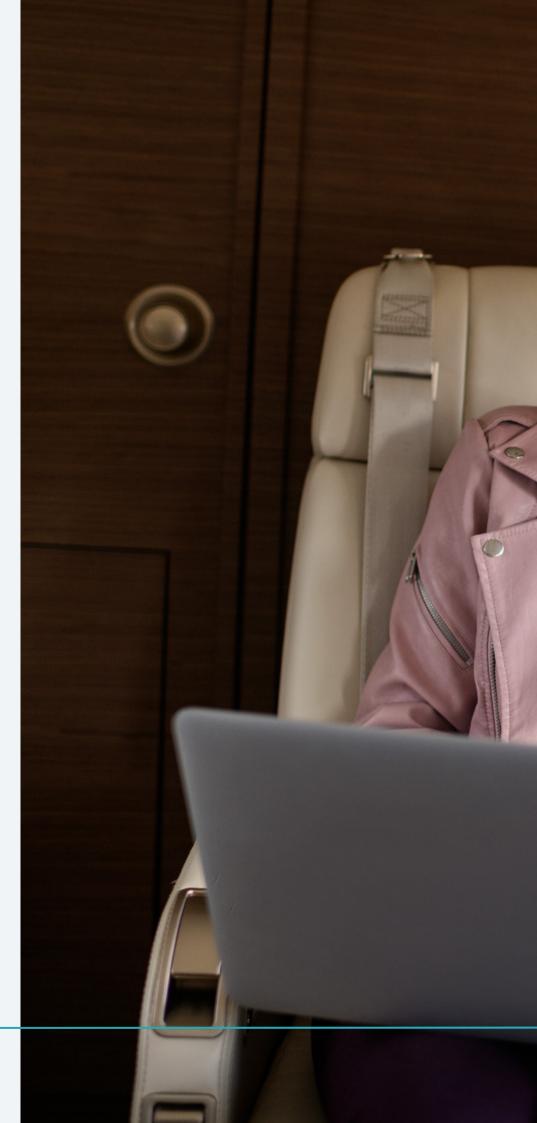
Ka-band satellite payloads entering service between now and 2025, increasing the network's total fleet to 12. This includes two commercial communications satellites ever built. They will be followed by two payloads in highly elliptical orbit, enabling the world's only commercial mobile broadband service for business jets flying in higher latitudes and across the Arctic, then three more satellites in geostationary orbit – adding further speed, capacity and resilience.

supplemented by a next-generation terminal developed by Honeywell, which will be compatible with a wide range of business jets, using cutting-edge technology and lightweight designs to optimise performance, reduce costs and simplify the installation and maintenance processes.

The combination of next generation terminals and Inmarsat's fast-growing satellite network will enable speeds up to 100 Mbps, for top tier customers that demand the highest level 'office-in-the-sky' experience.

Together, both companies have set the gold standard when it comes to inflight broadband connectivity. People can now conduct business just like they do on the ground while on the move at 30,000 feet in the air, travelling at phenomenal speeds.

Arno van der Kraan, Snr Director Global Partnerships & Honeywell Global Account Director, Inmarsat





Our current connectivity solutions

From mid- to super-size jets, Inmarsat works with Honeywell to deliver industry-leading connectivity services across all major airframes. Here's an aerial view of what we deliver...

SwiftBroadband

SwiftJet

With consistency and performance by design, SwiftBroadband has been the world's leading broadband-speed L-band service for business aviation for more than a decade.

From in-seat mobile phone and text services,

to emails, browsing and media streaming, SwiftBroadband ensures the needs of principals and crew are being met. It's a proven, dependable way to stay connected, regardless of which aircraft type is being operated, or where it's flying.

And now we're cementing our long-term commitment to SwiftBroadband with the launch of two advanced L-band satellites in 2023. These will be the most powerful L-band payloads ever launched, and form part of our visionary, fully-funded technology roadmap. This is our latest ground-breaking global connectivity solution for business aviation. SwiftJet delivers the seamless user experience that was previously unattainable in the smaller jet segment – exceeding passenger expectations and creating new opportunities.

It unlocks a range of new use cases and empowers users to create a secure 'office in the sky': conducting video calls, accessing emails, cloud-syncing documents, and using familiar collaboration tools, such as Microsoft Teams.

Social media, chat and video applications such as TikTok and YouTube – until now a challenge over L-band – are also accessible. In fact, SwiftJet now offers maximum speeds of 2.6Mbps across global flight routes, up to six times faster than our existing business aviation L-band connectivity solution.

Jet ConneX

Removing concerns about unpredictable Wi-Fi performance is critical for operators. They need to know that principals can do business uninterrupted.

Jet ConneX is the most popular and widely-adopted premium, high-speed, Wi-Fi solution available today. Its advanced capabilities can support all types of online activities: from video streaming and live TV, to video calls, large file transfers and VPN. And as the only inflight broadband solution to offer guaranteed data rates globally, with upgradable bandwidth, Jet ConneX sets the industry standard for reliability and passenger experience.

Powered by our global constellation of Ka-band satellites, Jet ConneX offers the most extensive coverage of international flight routes of any business aviation connectivity solution on the market. This consistent and seamless high-speed connectivity ensures the best-in-class experience wherever a principal flies.

What's more, Jet ConneX is evolving with our major upgrade programme, JX Evolution, which is further enhancing the in-cabin capabilities available today for principals. The resulting range of new service plans once again set the standar for high-speed connectivity, enabling ne and existing business jet owners to do more while flying, with the same level of guaranteed data rates they are used to.



Meet the companies

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Honeywell

With over 30 years' experience in aviation connectivity, it's no wonder that Inmarsat is trusted by so many of the world's most respected business jet owners. They know that only Inmarsat builds, owns, and operates all its own satellite networks, including vital ground infrastructure.

That's why our services are live and flying on over 5,500 business jets. And we are 100% committed to anticipating the future demands of principals through a fullyfunded technology roadmap.

<u>Read more</u>

Honeywell Aerospace products and services are found on virtually every air transport, business aviation and defence aircraft and spacecraft. Honeywell's products, services and software solutions create an optimized passenger connectivity experience, a more fuelefficient aircraft, more direct and on-time flights, as well as safer skies and airports.

And when it comes to business aviation, Honeywell provides nose-to-tail systems and equipment – including the latest flight management systems, connectivity systems, engines, wheels and brakes.

Working hand-in-hand with Inmarsat, Honeywell stands at the forefront of the connected aircraft, delivering reliable anywhere, anytime connectivity at speeds approaching those you would expect in the office or at home.



