

# ***Biz Jets: Poised to Return to the Skies***

***By Steve Moses, Senior Director, Vertical Market Solutions, ST Engineering iDirect***

2020 continues to be the most challenging of years for the aviation sector. With global air traffic left at a near standstill due to the impact of COVID-19, the aviation industry is in crisis. Grounded aircraft are parked across once busy taxiways as the industry struggles to remain solvent. 2020 is a year that airlines will want to forget.

Even though many commercial aircraft are grounded, and passengers levels are at a fraction of previous years, the business jet segment of the industry is recovering more quickly, and displays promise even against the backdrop of the global pandemic.

While COVID has had a hugely negative impact on the industry's commercial side, the business aviation segment has characteristics that make it more resilient and much more likely to return to its pre-pandemic potential. As the global pandemic wears on, travelers with an urgency to return to the skies regard business jet travel as a much safer option.

Corporations view the private jets as a controlled environment, enabling them to safely send their senior executives on important business missions. While business jet travel has always been

associated with A-list celebrities and the super-rich, private jet users critical mass is actually successful business owners, families and groups happy to pay a premium for a better travel experience.

As the segments recovers, the market is becoming more competitive, and the ability to demonstrate differentiating factors is critical for operators who want to retain and gain market share. High-quality connectivity is vital to achieving that goal.

## **A Golden Opportunity to Increase Market Share**

In the COVID environment, business jet operators have the opportunity to capture an increased share of the aviation market. According to Research and Markets, the market grew at a CAGR of 4% between 2014 and 2019. In a recent report from Fortune Business Insights, by 2027, the market size is projected to reach USD 35.56 billion at a CAGR of 5.37%.

In the Middle East and Africa, a Market Insight report on the business jet market forecasts an expected growth at a CAGR of over 3% from 2020-2025, opening new opportunities in the region. Given these favorable trends, recovery will

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happen fairly quickly.

Among factors driving the trend, new, membership-based private jet platforms, such as TailHail, XO, and Uber Jets, are stimulating demand by lowering charter costs and making it easier than ever to book safety-checked, private flights. It's almost as simple as booking a train ticket. Also, the cost of business class seats on commercial airlines is likely to increase as profits are squeezed by the need to provide social distancing.

### **Digital Expectations**

The single most important transformation for the business jet market is the digitization of the cabin. The business jet passenger is a discerning one and demands a premium connectivity experience. Passengers are paying big money to utilize private jet transport. Therefore, expectations are incredibly high, making the Quality of Experience one of the most important drivers of customer loyalty and satisfaction.

Passengers demand a fast, reliable, no-compromise system that enables them to run all of their chosen applications from streaming video to email and Internet access, to VoIP calls. In

the business jet market, Inflight Connectivity (IFC), Entertainment (IFE), and Cabin Management Services (CMS) are critical to success.

### **Supporting Business Aviation**

As the leading provider of satellite ground infrastructure for aero connectivity, ST Engineering iDirect is at the forefront of innovation.

The satellite industry has come a long way over more than ten years of providing satellite connectivity solutions for aircraft. High Throughput Satellites (HTS) and now Very High Throughput Satellites (VHTS) enable services from basic email access to video streaming, fulfilling a raft of applications that ten years ago we would have thought impossible over satellite.

Today, in addition to connectivity for traditional email and basic internet access, ST Engineering iDirect enables real-time data analytics applications, real-time weather routing and fuel management for the cockpit, live video, video streaming, gaming and voice and video conferencing for passengers.

To deliver a white-glove connectivity

experience, we offer service providers configurable QoS to assure maximum bandwidth availability along with load balancing, protection from inadvertent interruptions and fast beam switching along an aircraft's extended route - features required by the business operators. As soon as new technologies become available, we're integrating them into our satellite network infrastructure.

For example, we're aligning our systems with complementary technologies like 5G, Cloud computing, network virtualization, and orchestration. Together these capabilities increase capacity, efficiency, and reliability of the services that connect the user to networks on the ground.

### **Spearheading Innovation to Drive Costs Down**

The cost of aero connectivity service, equipment, and installation has always been a hurdle for users.

However, there is a shift occurring in the economics of satcom as new capacity and constellations come online. HTS and VHTS have already been lowering the price-per-bit delivered. These, coupled with ST Engineering iDirect's

waveform technologies such as adaptive coding and modulation, adaptive TDMA, MxDMA, and DVB-S2X, offer unrivaled efficiency and automated capacity management for the aero service provider. These advancements enable more cost efficient and faster services than ever before.

As faster and low latency new MEO and LEO satellite constellation solutions are integrated with cutting edge Flat Panel Antenna (FPA) technology, satellite broadband Internet will become available to smaller business jets.

The big challenge for the antenna manufacturers is making the ESAs efficient and affordable, yet robust enough for the aviation environment. Ultimately, we believe it will be possible to create antenna solutions at or below current equipment pricing. If FPAs are adopted in other higher volume applications, that creates more opportunity to innovate, further driving costs down and performance and efficiency up.

Our parent company, ST Engineering is engaged in a joint venture called Jet-Talk, which is developing a multi-orbit, multi-beam true time delay antenna technology that can revolutionize

connectivity for NGSO satellites as well as function with existing GEOs.

We are working to ensure multi-orbit, converged connectivity, as well. Our modems are built to be compatible across different technologies and constellations to enable the most reliable enterprise-class connectivity possible.

### Helping Recovery

The aviation sector has had a rough ride over the last six months, and though business aviation may have been hit less hard by the impact of COVID-19, there's still a long road to travel to return to growth.

Today, we are proud to be the aero satellite technology supporting more than 600 VSAT connected business jets and thousands of commercial aircraft. As the technology supplier to Inmarsat Jet ConneX, Intelsat FlexExec and SES Luxstream, we understand that service quality and reliability are the keys to customer experience, loyalty and success.

At ST Engineering, it is more important than ever that we support the business aviation sector, enable it to achieve a full recovery and a dynamic and profitable future.



*Steve Moses is senior director of vertical market solutions at ST Engineering iDirect and is responsible for guiding the strategic direction of iDirect aero solutions in this role.*

*Moses joined iDirect in 2010 and has held several product management roles guiding iDirect's Evolution®, iDirect Velocity®, and remote portfolio.*

*Prior to joining ST Engineering iDirect, Steve held product*