JETNET IQ PULSE

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Rollie Vincent JETNET iQ Creator/Director



Takin' Care of Business (Aviation)

Business aircraft long ago were effectively grounded by their owners and operators for a non-functioning on-board WiFi system. Although unlikely to ever be officially found on any Minimum Equipment List (MEL), suffice it to say that connectivity in today's business aircraft is essential to taking care of business. As a mechanism for staying in touch with people and events down below on Planet Earth, and arriving at destinations informed, entertained, and in touch, there is nothing quite like in-flight connectivity. Whether you call it high-speed data, broadband, in-flight Internet, or simply WiFi, nobody ever seems to call it what it really is: Wireless Fidelity.

"...connectivity in today's business aircraft is essential to taking care of business..."

With about 10% of the worldwide business jet fleet listed as for sale in the latter days of August 2020, we were surprised to learn that only 34% of those aircraft were identified as somehow WiFi-equipped in the JETNET database, which provides listings to sellers on a

no-fee basis. Although the large variety of WiFi descriptors may at least have something to do with it, the numbers of still unequipped jets was higher than we expected. Not surprisingly, newer aircraft are substantially more likely to be equipped, including 60% of for-sale jet inventory that was originally delivered in the last 10 years. Of the 145 on-market jets aged 5 years or less in late August 2020, just a little over 2/3^{rds} are listed as WiFi-enabled, with the probability of being equipped positively correlated with the size / price of the aircraft. While we acknowledge the inherent complexities and investment / operating costs of WiFi systems that are expected to operate flawlessly at 450 knots at FL450, our view is that no home or office in the sky seems complete without one.

In this, our 11th issue of JETNET iQ PULSE, we are pleased to be joined by Shawn Vick, Global Jet Capital's Chairman and CEO. While uncertainty has roiled the aircraft lending and leasing markets, we hope that his message appealing for clear eyed, fact-based assessments of the state of the industry while avoiding "admiring the problem" resonates as well with you as it does with us.



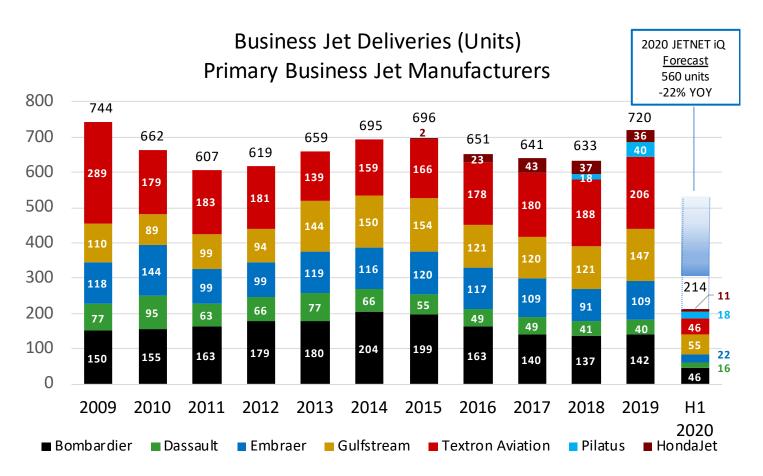




Outlook

GAMA's Q2 2020 business & general aviation aircraft new shipments report was delayed just before it was scheduled to be released on August 12, after an unprecedented quarter that will go down in history as the one most likely to show up prominently as a nadir point in industry charts for many years to come. Based on company reports and our own analyses and forecasts, we expect H1 2020 deliveries of new business jets to have totaled ~214 units across seven of the largest OEMs, down 29% YOY. Notably, these results exclude Airbus, Boeing, and Cirrus models at either end of the business jet price and payload / MTOW capacity spectrum.

We have updated our delivery outlook and now project that these 7 OEMs will ship 560 new business jets in 2020, which will be down ~22% YOY. While it is difficult to think of such a result as good performance, the suddenness of the downturn is primarily attributable to the COVID-19 pandemic and not, in our view, to concerns about the underlying value proposition of business aircraft. In fact, OEM order backlogs and book-to-bill performance ended 2019 on a 10-year high note, supported by customer orders and deliveries of newer models.



Data sources: Company reports; regulatory filings; GAMA; JETNET iQ Q2 2020 Delivery Forecast; includes estimates for Q2 2020 units for HondaJet and Pilatus; excludes Cirrus, Boeing, and Airbus

Source: JETNET iQ



Global Jet Capital Business Aviation: An Enduring Value Proposition



By Shawn Vick Chairman and CEO Global Jet Capital



As the effects of the COVID-19 forced shutdowns continue to evolve and our communities across the nation and world experience varying degrees of infection and death rates, we naturally find ourselves at a point of considerable uncertainty. The cause and impact of this period of uncertainty is new to us, as very few remain with any recollection of the events surrounding the 1918 Spanish Flu pandemic. Despite this, we can be certain the crises associated with the pandemics of 1918 and 2020 will ultimately have two things in common: both were unanticipated, and both will come to an end.

At times like these, clear eyed, fact-based assessments help us to effectively plan for what's next. Conversely, reactionary, speculative or subjective opinions can create misleading views, resulting in uninformed decision making. So, for a moment, let's focus on what we know in the context of the business aviation industry and the effects of COVID-19.

Thoughtful analysis of data coming from the FAA, OEMs, and industry data tracking services like JETNET paints a picture of an industry and a market taking a carefully considered pause in the face of a once-in-a-century event (though we may need to plan for future viral events accordingly), not an industry roiling from deep systemic, structural issues.

The first half of 2020 was characterized by pandemic-related social distancing, corporate work-from-home protocols, and OEM shutdowns and furloughs which have had wide-ranging effects on business aviation. While the industry has seen reductions in flight activity, aircraft production

and transaction activity, all of these have showed signs of improvement over the course of the second and now early third quarters. What's perhaps most telling is that the quantity of the week-over-week aircraft being listed for sale, an early read on potential supply and demand issues, has remained relatively stable at less than 50 per week — a fraction of what we saw in 2008 when that number consistently averaged over 80 with spikes in the 120 range.

The result of this suppressed production and transaction activity can be seen in inventory levels that remain around 10 percent, a range considered healthy for a global fleet of 22,000 business jets. Keep in mind that over the course of 2008, inventory levels averaged over 15 percent with periodic peaks around 20 percent. This is important because reasonable inventory levels, paired with reduced production rates and overall improving transaction activity, ought not to result in disrupted supply and demand dynamics or long-term systemic devaluation issues. While it's true that COVID-19-related economic disruptions have resulted in some distressed sales — and will likely result in more before the impacts of the pandemic are behind us — they do not make a market.

From a macro perspective, the value proposition of a business jet remains critically important to governments, businesses and the fundamentals of competitive capitalism around the globe. In that context, the random access, productivity and security afforded by business aviation are credible, relevant and highly differentiated from its only rival – commercial air travel. And this value proposition is in no way diminished by the pandemic; instead, it's enhanced by new considerations related to health security and the potential for contactless operations.

The business aviation industry has been pressure tested by every economic, societal and geopolitical disruption going back to February 1963 when the original Learjet 23 went into production. COVID-19 will undoubtedly leave a mark, but that too will fade. In the meantime, let's not "admire the problem," but instead act today in anticipation of the eventual return to normalcy.

"...let's not "admire the problem," but...act today in anticipation of the eventual return to normalcy"

As CEO of Global Jet Capital and a Partner at AE Industrial Partners, I'm encouraging our teams to use this period of uncertainty and its associated business slowdown to take a close look at our respective businesses for areas of improvement ranging from supplier agreements, operating systems, go to market and brand strategies, to employee engagement. This period has afforded us the unusual luxury of introspection about the business — but it won't last. In the meantime, make the best of it to get ready for whatever comes next.



The power of 5 is coming.

5G internet during your flight? Believe it. In 2021, Gogo will launch a true 5G network for business aviation, once again setting the standard for flying smarter and helping you stay connected to your world.

Take the first step today: **gogo.to/discover5g**



Exclusive 5G ebook

Get up to speed on 5G and what it will mean for your aircraft experience.

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Business Conditions



The Economist's GDP forecasts for the U.S. and Euro Area economies for 2020 are - 5.3% and -8.6% respectively in 2020; U.K.'s 2020 growth rate is -9.4%; China is the only major business aviation economy expected to grow in 2020 - by 1.7%



The **Dow Jones Index** (U.S.) was down 1.9% YTD from January 2 to August 24, 2020, and up 10.5% YOY; The FTSE 100 (U.K.) was down 19.7% YTD from January 2 to August 24, 2020, and down by 14.0% YOY



U.S. initial <u>unemployment claims</u>

were 57.4 million in the 22 weeks ending August 15, 2020; U.S. unemployment rate (SA) was 10.2% in the week ending August 8, 2020 (representing ~14.8 million people)







Transactions of pre-owned business jets (retail sales and leases) in May / June / July 2020 were down 7% YOY to an average of 186/month while days-onmarket were up 2% to 272/month days YOY based on Jetnet data





Business jet cycles (take-offs and landings) in August 2020 (through Aug 25) were down by -39% YOY for U.S. Part 91, by -4% YOY for U.S. Part 135, and by -6% YOY for U.S. Part 91K



U.S. Index of **Consumer Sentiment** was 72.5 in July 2020, down from 78.1 in June and from 98.4 in July 2019 YOY; Euro Area Economic Sentiment Indicator was 82.3 in July 2020, up from 75.8 in June but down from 103.4 in February 2020 at

the onset of COVID-19



U.S. **Purchasing Manager Index**

(PMI) was 54.2% in July 2020, up from 50.9% at the beginning of the year; Euro Area **Business** Climate Indicator was -1.8 in July 2020, up from -2.39 in May (lowest since September 2009)

Business jet deliveries YTD as of Aug. 25 were 276 units (including Cirrus, Boeing, Airbus) and turboprop deliveries were 121, according to JETNET; Q2 2020 shipments are expected to be the low point of the current COVID-19 down cycle

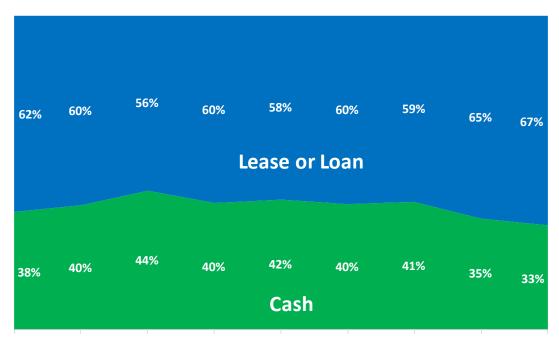


Financing Intentions – Next New Aircraft

Cash vs. Lease or Loan – JETNET iQ Global Business Aviation Surveys

While cash may be king in some markets, business aircraft owners / operators have consistently indicated their interest in a variety of lease and loan offerings in today's business aircraft marketplace. Since the onset of the COVID-19 pandemic and amongst respondents with an opinion, about 2/3^{rds} indicate that they plan to use some sort of financing to acquire their next new aircraft.

While overall purchase probabilities post-COVID have naturally slipped, the mix of owners / operators planning to avail themselves of financing appears to have increased. Historically attractive rates and innovative loan / lease structures (including asset-based) appeal to a broad range of customers.



Q3 2018 Q4 2018 Q1 2019 Q2 2019 Q3 2019 Q4 2019 Q1 2020 Q2 2020 Q3 2020

Source: JETNET iQ





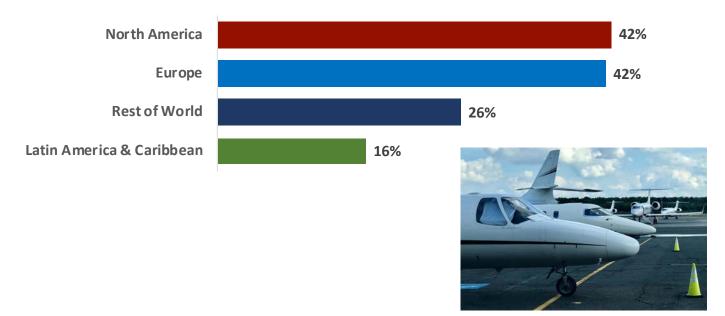
Cash Preference – Next New Aircraft

Q2 2020 JETNET iQ Global Business Aviation Survey

Based on the results of our Q2 2020 JETNET iQ Survey, there appear to be some interesting regional and aircraft size category differences in intentions to use cash to finance next new aircraft purchases. Owners / operators in North America (U.S. and Canada) and Europe indicate that they are much more likely to use cash

than in other regions of the world. Likelihood to pay with cash is somewhat higher amongst Large Jet operators (Challenger 650 / Falcon 2000 class and above); in essence, the smaller the aircraft, the more likely the owner / operator is to be open to loan and/or lease financing.

Cash Preference for Next Purchase of New Business Aircraft By Region



Cash Preference for Next Purchase of New Business Aircraft
By Size Category



Source: JETNET iQ Q2 2020 Survey

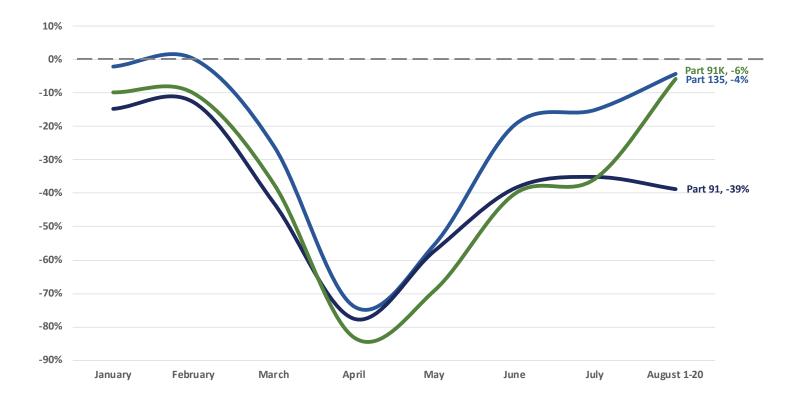


U.S. Business Jet Cycles by Type of Operation

YOY % Change from 2019 to 2020: January – August 20

Business jet operations in 2020 reached a low point in April, off a remarkable 75-85% YOY. Although recovery in flight cycles has occurred across Part 91 (private), Part 91K (fractional), and Part 135 (on-demand charter) operations, overall flight cycles remain below 2019 levels. An increase in fractional program utilization in August 2020, while encouraging, likely reflects family repositioning and VFR (visiting friends and relatives) flying more so than corporate / business use, based on city-pair route analysis and management commentary. A noticeable flattening of the recovery trajectories of both Part 91 and Part 135 flying occurred in both July and August 2020, possibly a reflection of the spread of the coronavirus into the Southern U.S.

With only a little more than 4 months left in the year, trend analysis suggests that overall flight cycles could end 2020 down 30% versus 2019. While this is comparatively strong performance relative to the commercial airlines, it still represents the largest YOY decline in U.S. business jet activity ever measured. For management teams thinking ahead to 2021, and assuming progress on the discovery and dissemination of an effective COVID-19 vaccine, one of the few good things coming out of 2020 should be relatively easy comparables.



Sources: FAA; JETNET



U.S. Fractional Business Jet Departures by Airport

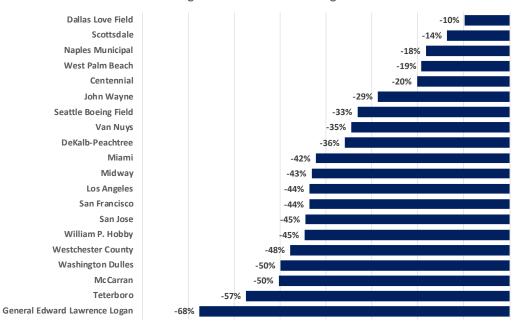
YOY % Change from 2019 to 2020: January - August 24

U.S. fractional business jet operations have lagged the rebound evident in Part 135 on-demand charter flying for the first 7 months of 2020. In some "good news" for fractional program holders this year, in the first 3 weeks of August, fractional cycles have experienced a surge relative to 2019. Flight departures from key business jet airports in the Northeast Corridor (Boston – New York

– Washington. D.C.) are sharply down YOY, including at 3 of the top 4 airports (Teterboro, Westchester County and Washington Dulles) based on 2019 full year traffic data. Less impacted have been popular 2nd home and resort locations including Florida, Colorado, and Arizona.

Year-over-Year Drop in U.S. Fractional Business Jet Cycles from Top 20 U.S. Airports (Based on 2019 Traffic)

Jan 1 - Aug 24 2020 versus Jan 1 - Aug 24 2019



Sources: FAA; JETNET



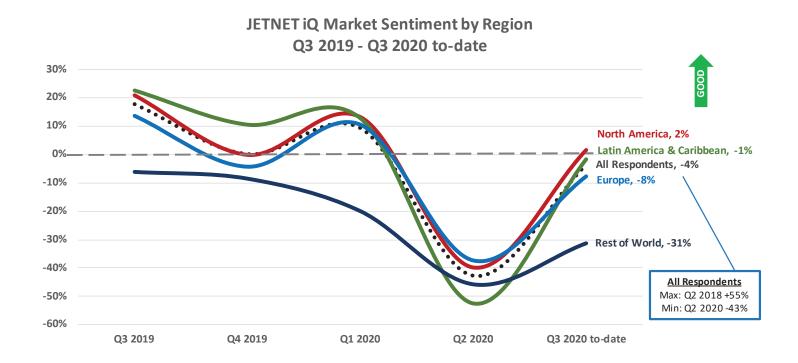


JETNET iQ Market Sentiment

Worldwide and By Region

In some very positive news, the sentiment of business aircraft owners / operators has begun to swing back after the historic downturn registered in Q2 2020. With 319 respondents to date to the in-progress Q3 2020 JETNET iQ Survey as of August 20, 2020, customers are beginning to feel more confident about business conditions. Net Optimism, the difference between those respondents who believe we are past the low point in the current

business cycle (Optimists), and those who believe that we have not yet reached the low point (Pessimists), plummeted in Q2 2020 to -43%. With $^{\sim}2/3^{rds}$ of targeted responses gathered to date in Q3 2020, conditions have improved markedly throughout in many key business aviation markets, although there is still a long way to go before returning to the marketplace that we experienced as recently as mid-2018.



Source: JETNET iQ



About JETNET iQ

JETNET iQ is a business aviation market research, analysis and forecasting service consisting of three main elements:

JETNET iQ Reports are the definitive analytical reference for business aviation, incorporating quarterly state-of-the-industry analyses, owner / operator surveys, and detailed delivery and fleet forecasts;

JETNET iQ Summits are annual industry conferences providing unique data, insights and networking opportunities; and **JETNET iQ Consulting** provides customized research and analysis for clients on a project-by-project basis.

JETNET iQ Reports are available in various formats on a subscription basis, and are published regularly by JETNET LLC, 101 First Street, Utica, NY 13501 - currently offered at 8 different levels. JETNET iQ is a partnership between JETNET LLC of Utica, New York and Rolland Vincent Associates, LLC, of Plano, Texas.

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Since late 2010, JETNET has conducted quarterly surveys of the worldwide community of business aircraft owners and operators in order to gauge customer sentiment, brand perceptions, aircraft purchase, selling, and utilization expectations, and other factors. JETNET iQ Global Business Aviation Surveys are password-protected and by invitation-only. Potential respondents are drawn randomly from the JETNET worldwide database of business jet and business turboprop owners and operators; they are initially contacted by telephone and/or e-mail by JETNET's team of multilingual researchers. Target respondents include chief pilots, directors of aviation, and senior management. Each survey includes at least 500 respondents in 50 or more countries each quarter, and respondents closely reflect the worldwide distribution of the business jet and turboprop community.

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Appendix

Data sources:

GDP growth forecasts, Unemployment Rate, \$U.S. Exchange Rate (2020): The Economist - August 22, 2020

https://www.economist.com/economic-and-financial-indicators/2020/08/22/economic-data-commodities-and-markets

Stock Markets:

Dow Jones Industrial Average: http://ca.spindices.com/indices/equity/dow-jones-industrial-average

London Stock Exchange (FTSE 100): https://www.londonstockexchange.com/indices/ftse-100

Unemployment: Bureau of Labor Statistics (U.S.); https://www.dol.gov/ui/data.pdf; "SA" = seasonally adjusted

Consumer Confidence: University of Michigan Survey of Consumers (U.S.); https://data.sca.isr.umich.edu/fetchdoc.php?docid=65386;

European Commission (Euro Area) – Economic Sentiment Indicator; https://ec.europa.eu/info/sites/info/files/full_bcs_2020_06_en.pdf

Business Confidence: US ISM Manufacturing PMI (U.S.)

https://www.instituteforsupplymanagement.org/about/MediaRoom/newsreleasedetail.cfm?ItemNumber=31182

Eurostat (Euro Area); https://ec.europa.eu/eurostat/databrowser/view/teibs010/default/table?lang=en

Business aircraft fleet, deliveries, transactions, days-on-market (DOM), utilization: JETNET; DOM refers to aircraft that were sold / leased

Survey results: JETNET iQ Global Business Aviation Surveys (Quarterly)
Coronavirus updates: https://www.worldometers.info/coronavirus/
Photo credits: Page 1: Gogo Business Aviation; Page 3: Global Jet Capital

Definitions and Abbreviations:

For the purposes of these Reports, business aircraft may be classified into 4 primary categories, reflecting propulsion, price, performance, and weight class differences. These categories are: Turboprops (Single-Engine Turboprops - SETP and Multi-Engine Turboprops - METP), Small Jets (Personal Jets, Very Light Jets, Light Jets), Medium Jets (Super-Light Jet, Mid-Size Jet, Super Mid-Size Jet), and Large Jets (Large Jet, Large Long-Range Jet, Large Ultra Long-Range Jet, Airline Business Jet). The "Personal Jet" category includes single-engine turbofan-powered models, today represented by the Cirrus Vision Jet.

B&GA: Business and general aviation

EIS: Entry in Service

FTSE: Financial Times Stock Exchange (London)

GAMA: General Aviation Manufacturers Association GDP: Gross Domestic Product

MTOW: Maximum Takeoff Weight
NGO: Non-Governmental Organization
OEM: Original Equipment Manufacturer

QOQ: Quarter over Quarter QTD: Quarter to Date S&P: Standard & Poor's TTM: Trailing Twelve Months

YOY: Year over Year YTD: Year to Date

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