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PREFACE

On March 11, 2020, the World Health Organization declared COVID-19 a global pandemic. We'll leave the discussion of what followed to dedicated historians but suffice it to say that everything changed. For business aviation, industry activity immediately stopped. People canceled travel to shelter in place, the manufacturers (quickly followed by their suppliers) suspended operations, and transaction activity all but seized up. As a leading business jet financier, Global Jet Capital is called upon by our clients to invest capital through the ups and downs in the market and this time was no exception. Our first step was to consider the impact of the Great Recession, the last major event that transformed the business aviation market and which led to the "lost decade" of overproduction and depressed aircraft values.

It didn't take long to understand that COVID-19 had no relation to what transpired leading up to the summer of 2008, when a crash in demand coincided with a surge in production that could not be right-sized for several years due to huge OEM investments in manufacturing. Conversely, throughout 2018 and 2019 the industry had been demonstrating sound dynamics with the difficult actions taken by OEMs to match supply with demand now in the past. Flight activity was solid, pre-owned inventories were within traditional averages, and aircraft values were steady having climbed out of all-time lows. A considered view of the facts told us that whatever happened next would likely be very different.

The first signs of COVID's impact were visible as soon as April 2020. As business jet activity hit an all-time low, we braced for operators to flood the market with aircraft listings. Instead, we started to hear about MRO shops filling up with operators looking to knock out mandatory maintenance to ensure they could fly when the all-clear was sounded. By the end of May, business jet activity was rebounding and "health safety" was being added to the always undeniable value proposition supporting business aviation (anytime access, productivity, privacy, and safety). By the end of 2020, business jet operations were back to pre-COVID levels and word on the street was that new users were joining the market at all entry points—charter, fractional ownership, and full ownership.

Well, here we are four years later, and arguably business aviation has never been in a better place by any measure. We thought it would be interesting, now that the pandemic is clearly in the rearview mirror, to take a closer look at what changed between January 2020 and January 2024, and what those changes tell us about the future.

Andrew Farrant
Chief Marketing Officer, Global Jet Capital

THE GLOBAL PANDEMIC'S IMPACT ON **BUSINESS AVIATION** IN 5 DATA SETS

1. Business Jet Departures

Following the outbreak of the COVID-19 pandemic, business jet departures slowed significantly as people sheltered in place and much of the business world came to a halt.

Departure data from late Q1 and early Q2 of 2020 demonstrated a severe drop-off in activity. By late Q2, however, departures – especially in North America – began to pick up dramatically. Despite this, 2020 full-year departure data reflected the lowest levels of activity in the last 25-30 years. This is true even when measured by departures per aircraft, which accounts for annual fleet growth.

The industry hit an all-time high in 2022 with over 3.7M departures. Much of this growth came from charter and fractional activity, which drew the highest number of new entrants. In the eyes of many industry insiders, this activity level was unsustainable. Business jets typically operate approximately 400 hours per year, and many aircraft in high utilization environments like charter and fractional operations were pushing their limits. Many of these new entrants that started using business aviation during the pandemic were expected to return to commercial airlines once disruptions were over. To some extent, that expectation played out, and can be seen from the reduction in flight activity from 2022 to 2023. But many of these new entrants have continued to use business aviation, and the increase in departures from 2019 to 2023 related to these new users is now undeniable.

When comparing 2023 to 2019, the critical North American market saw sizable 10% growth, Europe grew 6%, and traffic in the rest of the world excluding Europe ("RoW") saw a 60% increase. These increases were driven by new wealth creation and the value proposition of business aviation following COVID-19. By category, fractional and charter saw the biggest jumps at 40% and 18%, respectively, driven by new industry entrants looking to maintain business operations and lifestyle without subjecting themselves to high-density environments like main hub airports and commercial airliners amid a global pandemic.

Currently (as we move into Q2 2024), business jet operations continue to demonstrate strong demand well beyond pre-COVID-19 levels.[i]

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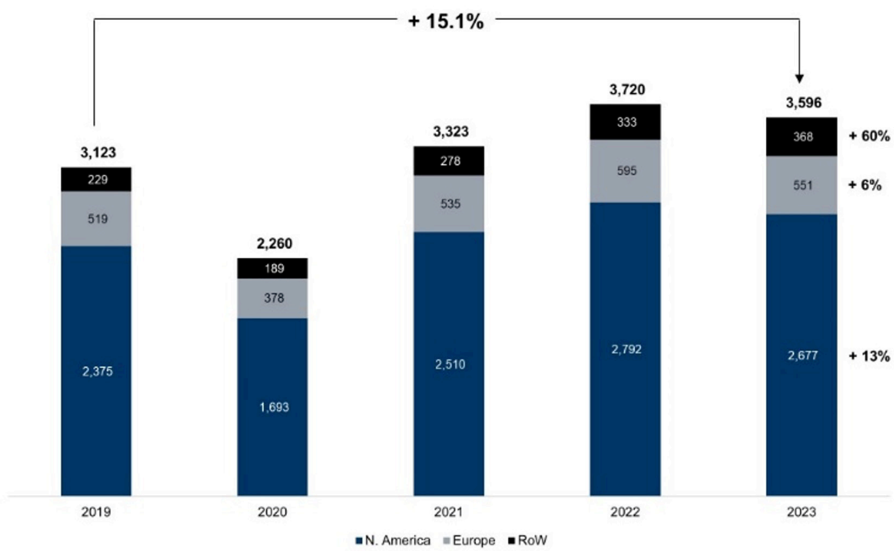
Business Jet Departures (2019-23) / By Region



Source: WingX Data and GJC Analysis
Note: Data includes only US and European departures due to data availability before 2019

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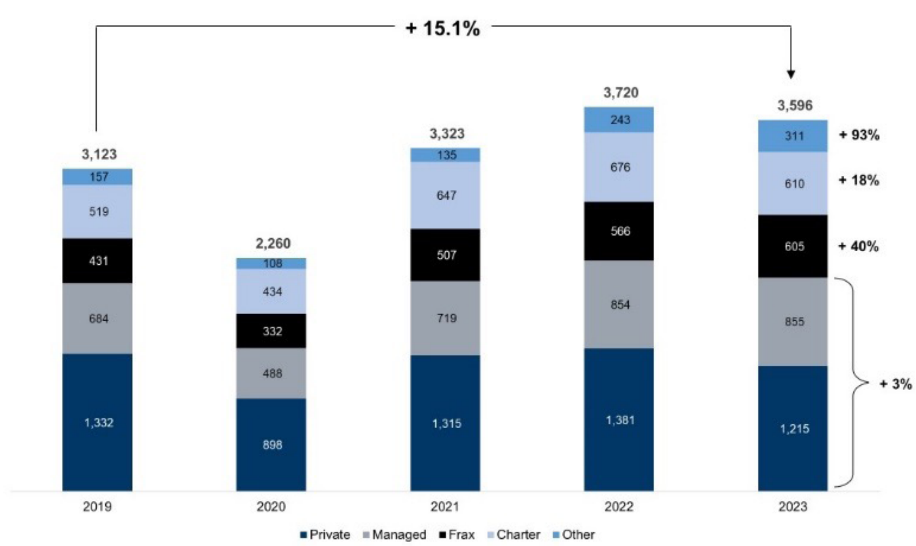
Business Jet Departures (2019-23) / By User Type



Source: WingX Data and GJC Analysis
Note: Data includes only US and European departures due to data availability before 2019

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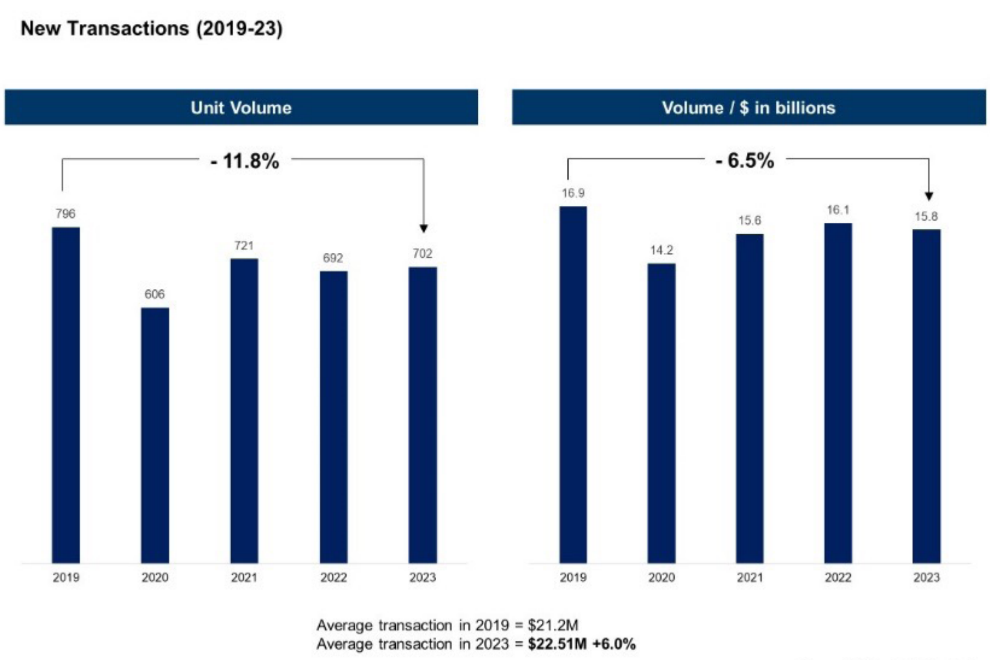
2. New Transactions and the Production Environment

New transaction or delivery data may best reflect the overall health of the business jet industry during, coming out of, and after the COVID-19 pandemic.

When the pandemic hit, the reaction from the major equipment manufacturers and their supply chain partners was swift and appropriate, shutting down operations to protect their employees from a new virus that the scientific world was only beginning to fully understand. What was not anticipated was that after five years, new business jet deliveries would continue to be negatively impacted by supply chain and labor issues triggered by those initial shutdowns in the spring of 2020.

Despite very strong utilization and demand over the past 4 years, new transactions in 2023 were 12% below 2019 in unit volume (702 units to 796 units) and 7% below in dollar volume ($16.9B to $15.8B) even though heading into the pandemic the manufacturers were poised to begin delivering several (mostly large) new aircraft models. To put this in context, if we consider the 15 years leading up to the pandemic (2006 to 2019) the manufacturers delivered an average of 770 units valued at $16.7B per year.[iv]

As we begin 2024, business jet manufacturers are in a strong position. The industry backlog at the end of 2023 reached over $50B, 51% higher than the same period in 2019 when it was at $33B. Book-to-bill ratios, which spiked at 1.50:1 in 2021 as a result of peak demand facing suppressed supply, have now returned to the pre-COVID-19 rate of 1.10:1. This is 27% lower than the highest point but still comfortably above break-even. It is also clear that OEMs' actions during the pandemic reflect their experience in the aftermath of the Great Recession (despite the fact that some production constraints were imposed by supply chain issues) and have led to a well-balanced demand/supply environment. These measures have been highly effective in preventing overproduction in response to the surge in demand and have supported values of pre-owned aircraft.[v]



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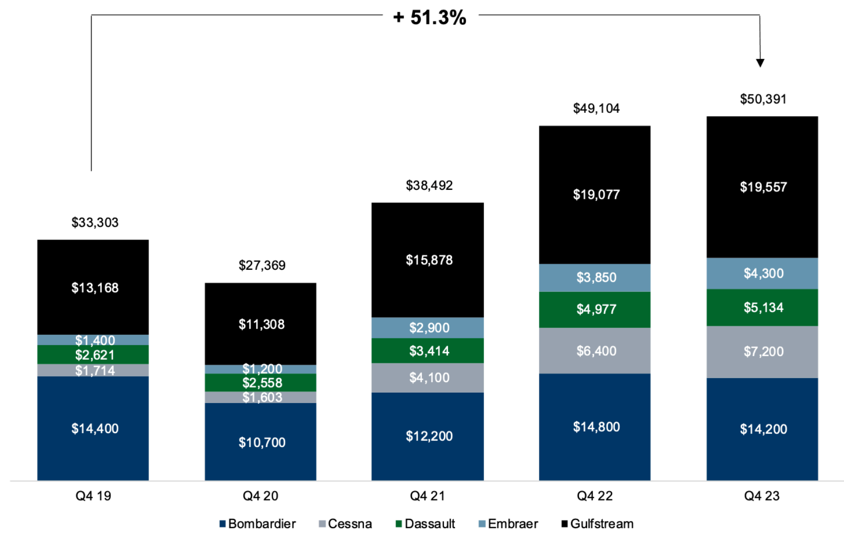
OEM Health (2019-23) / Backlogs



Note: Dassault and Embraer data for Q$ 2023 was not available at the time of publication

Source: Company financial reports

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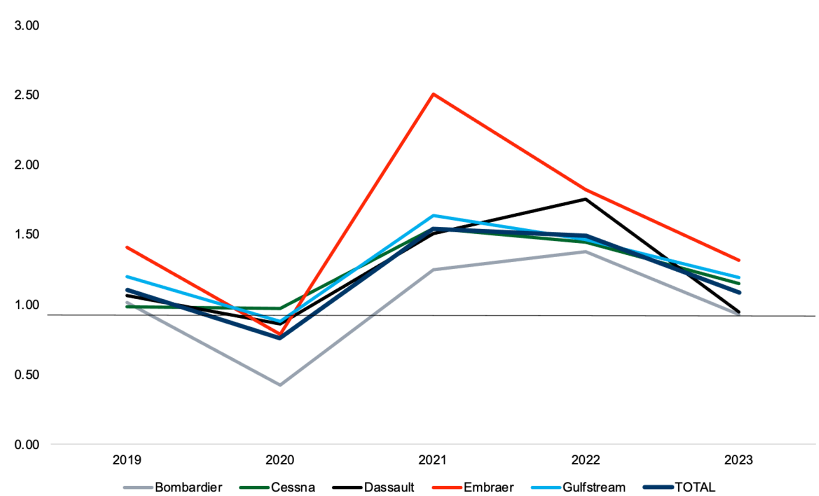
OEM Health (2020-23) / Book-to-Bill Ratios



Source: Company financial reports

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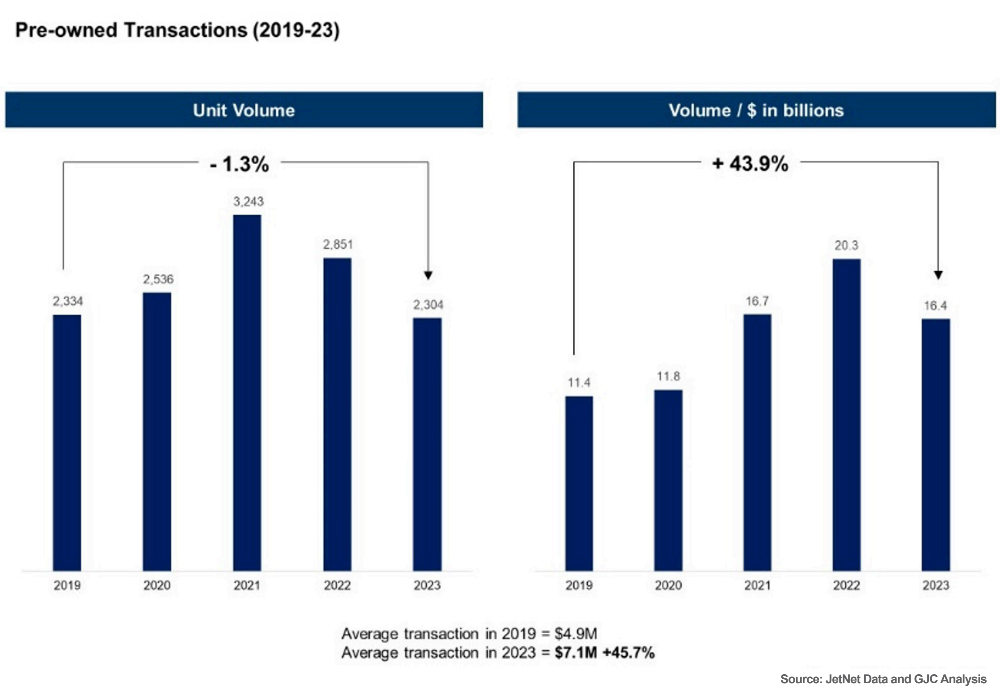
3. Pre-Owned Transactions and Inventory

With demand surging in the back half of 2020 and throughout 2021 and the OEM production lines still operating under planned capacity, buyers turned to the pre-owned market. This highly liquid market with strong price discovery has always been a vibrant feature of business aviation and this period was no exception. At first, buyers had plenty of choices as sellers impacted by the pandemic were motivated to sell aircraft. However, as that initial supply was exhausted prices began to rise to draw in more sellers.

Based on historical data, in the 15 years leading up to the pandemic (2006-2019) the industry saw an average of around 2,100 pre-owned transactions annually valued at just over $12B. Pre-owned transactions increased at a 2% annualized rate during that period. In 2021 the industry saw 3,200 pre-owned transactions, 52% higher than this average. In 2019 the pre-owned transaction market was valued at over $11B, well in line with the average over the past 15 years ($12B). In 2022 the market reached over $20B, 66% above pre-pandemic levels. Between 2019 and 2023, the size of the average pre-owned aircraft transaction grew from just under $5M to just over $7M (a 46% increase). While some of the increase was attributable to a mix of larger aircraft, most of it was the result of higher values being driven by an abundance of demand against limited supply.

The impact of this high rate of activity on pre-owned inventory was unprecedented, as inventory dropped to just below 4% of the global fleet, or roughly 850 of 23,000 aircraft. The benchmark for inventory level has historically been around 10-11%. For comparison, following the Great Recession inventory rates exceeded 16% in 2008 and 2009 with surges to 19% during that period.

Transaction unit volume in 2023 returned to pre-pandemic levels. Pre-owned inventories have risen steadily, providing buyers more choice at more attractive price points. We expect pre-owned transactions to continue to run at historical norms going into 2024.[ix]



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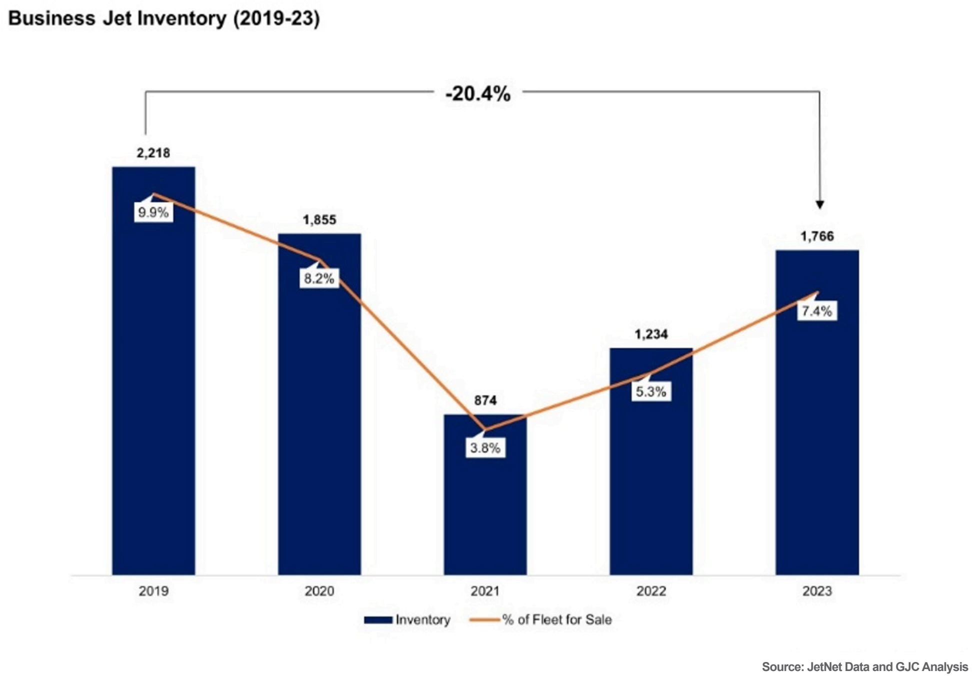


[xi]

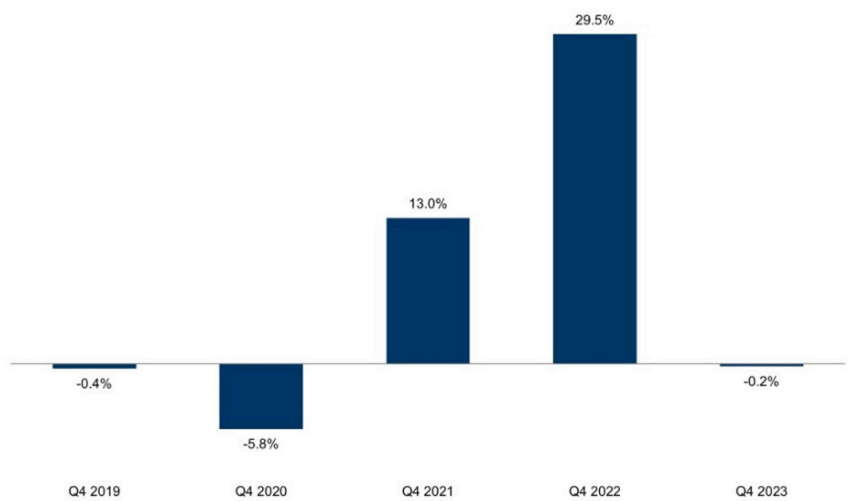
4. Aircraft Bluebook Value Changes

High demand for new and pre-owned aircraft in a market with production constraints and limited inventory had a very predictable impact: business jet values rose rapidly in 2021 and 2022.

At the immediate onset of the pandemic, values dropped off, primarily due to uncertainty. But once it was clear that demand for aircraft was recovering in a troubled production environment, values began to rise. As inventory levels dropped off, values increased even further. A portion of this increase was a reversion of pre-owned aircraft depreciation rates to more normal levels following the extended phase of depressed values after the Great Recession. But the strong demand impulse also contributed to this rapid increase. What we are currently experiencing is a reversion to the norm. New and pre-owned transaction activity has returned to pre-pandemic levels, but many of the high values attained in 2021 and 2022 are likely now in the past. Aircraft values in 2023 demonstrated depreciation in line with long-term historical trends, and buyers are now seeing better value.[xii]

As with all disruptions, once the air clears a new normal emerges. The pandemic's impact on business aviation is no different. Without a sizable global economic disruption that negatively impacts business jet utilization and overall demand, values will continue to gradually moderate. While aircraft have resumed depreciating, current dynamics do not support a widespread dislocation like we saw following the Great Recession, when oversupply from a production perspective met receding demand as $2 trillion in global economic growth was lost.

Bluebook Values (2019-23) / Percentage Change All Jets



Source: Aircraft Bluebook and GJC Analysis

5. Fleet Size, Composition, and Value

Between 2019 and 2023 the global fleet of business jets grew by 7%, with the largest gains coming in the very light and heavy jet segments. What's far more telling was the growth in aircraft identified as charter or fractional aircraft. Those categories grew by 16% and a significant 40%, respectively. These numbers reflect an influx of new entrants at all entry points in the business aviation market between the onset of the pandemic and today.[xiii]

There has long existed a theory that only a small portion of people who can afford to use business aviation actually do so. The COVID-19 pandemic seemed to bring that theory to life. As people sheltered in place to avoid infection, they avoided high-density environments like airports and commercial airliners. Many high net-worth individuals and businesses seeking to continue operations and maintain their lifestyles began looking to one-off charters, jet cards, fractional ownership, and whole ownership to protect their health. What they quickly discovered is that the value proposition that has supported business aviation from the first Learjet is undeniable. While some of these people have begun to filter back to commercial airline service, many of them will stay. While everyone's journey is different, there is some truth to the idea that charter leads to jet cards, jet cards lead to fractional ownership, and fractional ownership evolves into whole ownership.

What is remarkable but not surprising in the context of rising aircraft values is that despite lackluster unit volume growth between 2019 and 2023 (7%), the value of the global fleet grew by 45% with all categories of aircraft participating. This will moderate over time as aircraft are depreciating assets, but much of this value is here to stay.[xiv]

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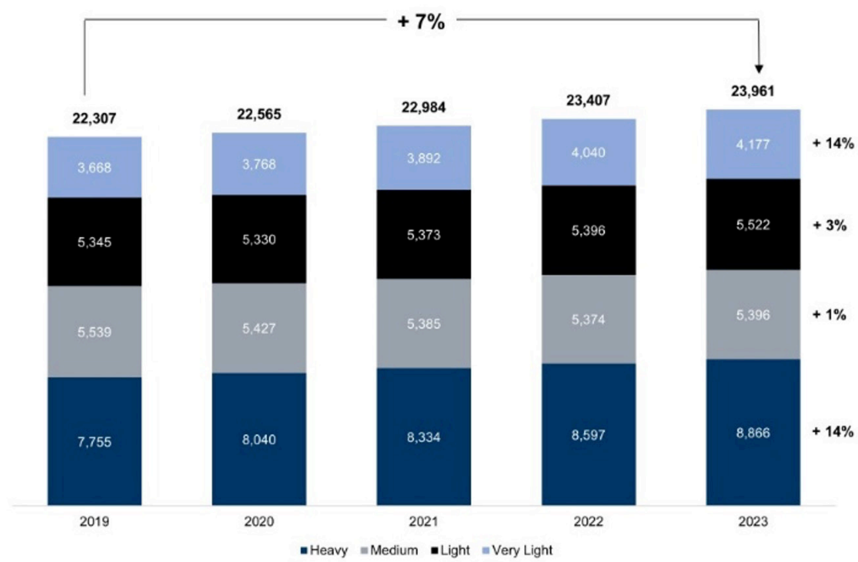
Business Jet Fleet Size (2019-23)



Source: JetNet Data and GJC Analysis

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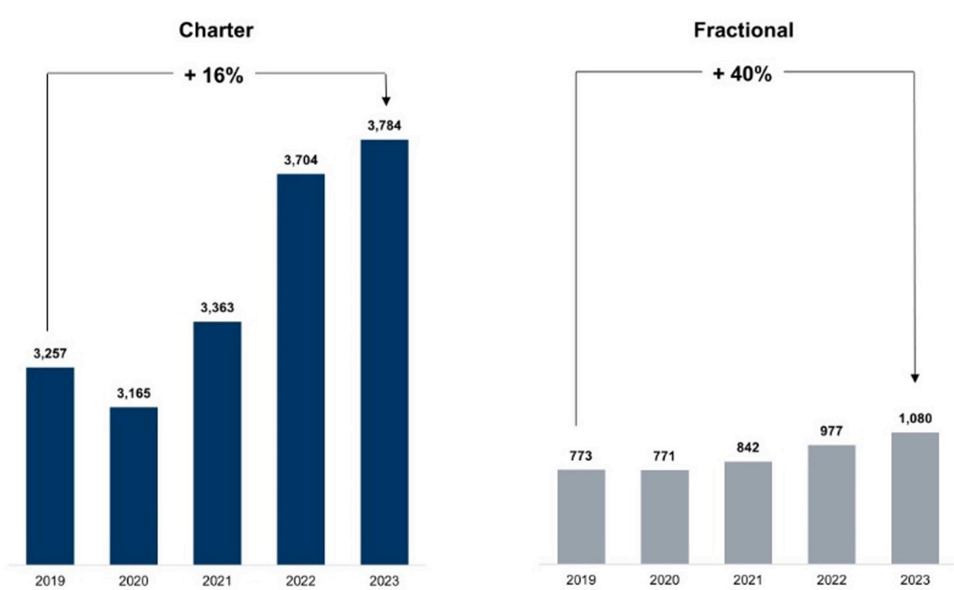
Business Jet Fleet Size (2019-23) / Charter & Frax



Source: JetNet and GJC Analysis

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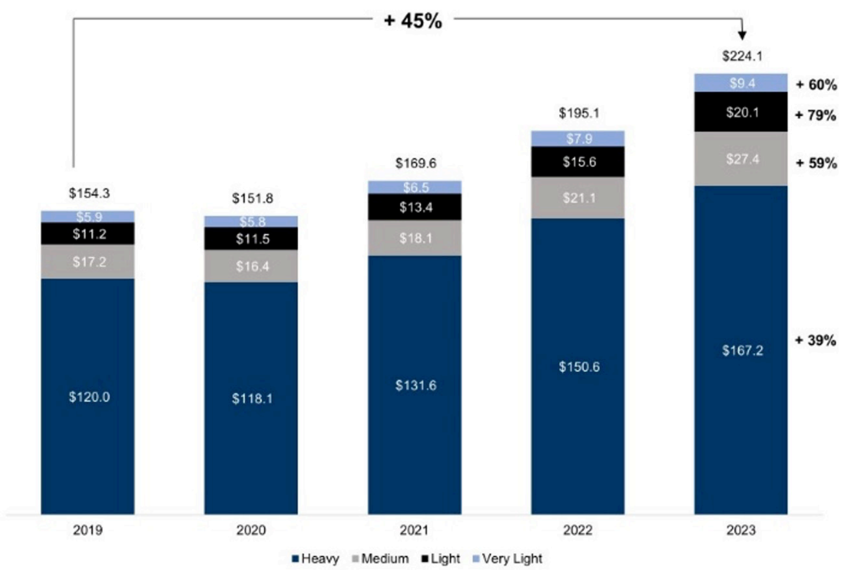
Business Fleet Size (2019-23) / Dollar Value



Source: JetNet, Aircraft Blue Book, and GJC Analysis

Conclusion

The global pandemic had three significant effects on business aviation. First, disruption to commercial airline service, combined with the inherent value proposition supporting business aviation, led to a systemic increase in the user base. Second, pandemic-related disruptions in the OEM supply chain and labor pool emerged, which have resulted in a new equilibrium in aircraft values that is likely to remain above the depressed levels of the 2010s. Third, the mix of higher demand, increased aircraft usage, and higher value of aircraft expanded the entire ecosystem. As a result of all this, the business aviation industry has landed on a higher and broader plateau from which it should continue to grow at a steady pace in line with historical long-term averages for the foreseeable future.

Notes
[i] WINGX Data and GJC Analysis
[ii] WINGX Data and GJC Analysis
[iii] WINGX Data and GJC Analysis
[iv] JETNET Data and GJC Analysis
[v] Company Financial Reports
[vi] JETNET Data and GJC Analysis
[vii] Company Financial Reports
[viii] Company Financial Reports
[ix] JETNET Data and GJC Analysis
[x] JETNET Data and GJC Analysis
[xi] JETNET Data and GJC Analysis
[xii] Aircraft Bluebook Data and GJC Analysis
[xiii] JETNET Data and GJC Analysis
[xiv] JETNET and Aircraft Bluebook Data and GJC Analysis
[xv] JETNET Data and GJC Analysis
[xvi] JETNET Data and GJC Analysis

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