



Business Aviation Update & Analysis

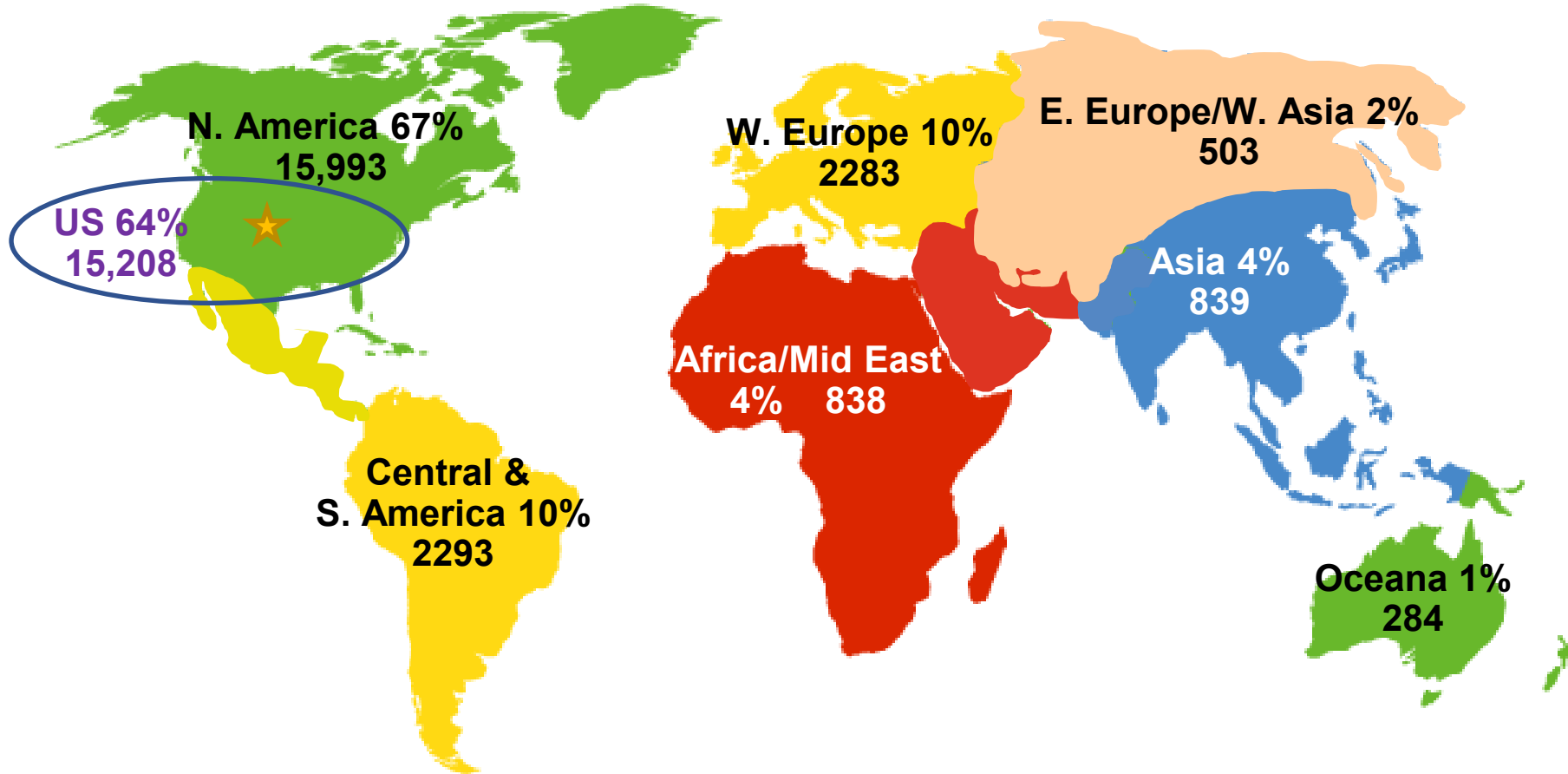


October 5, 2023








Business Aviation Overview

23,838 Active Business Jets; 67% Based in N America



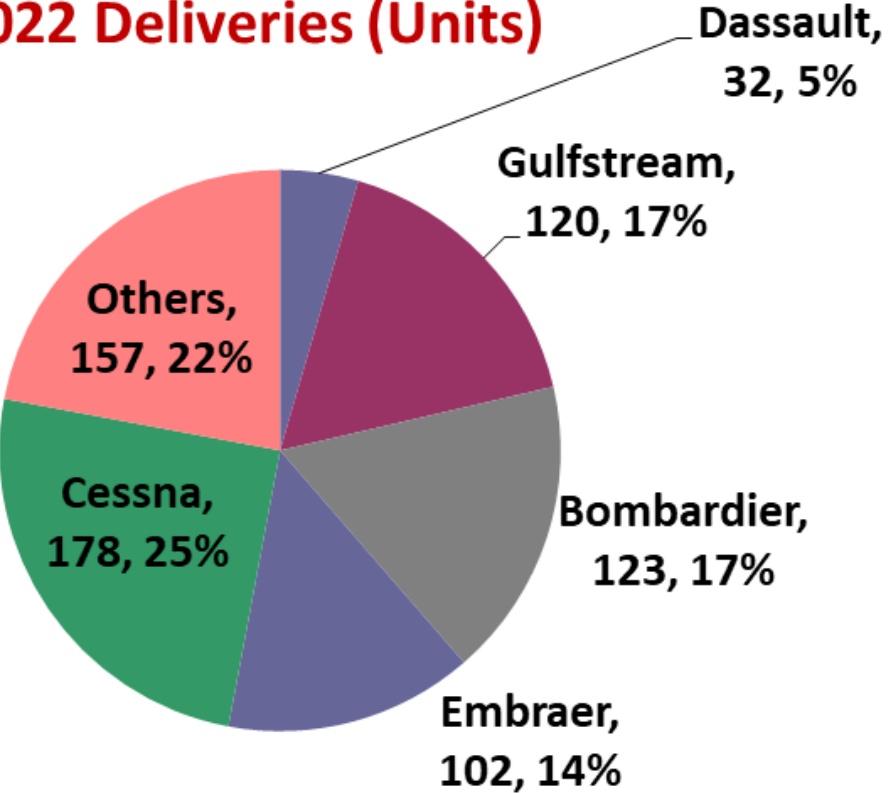
Note: 805 aircraft locations unspecified

33 Choices of Bizjet Models Compete For ~700 Annual Deliveries

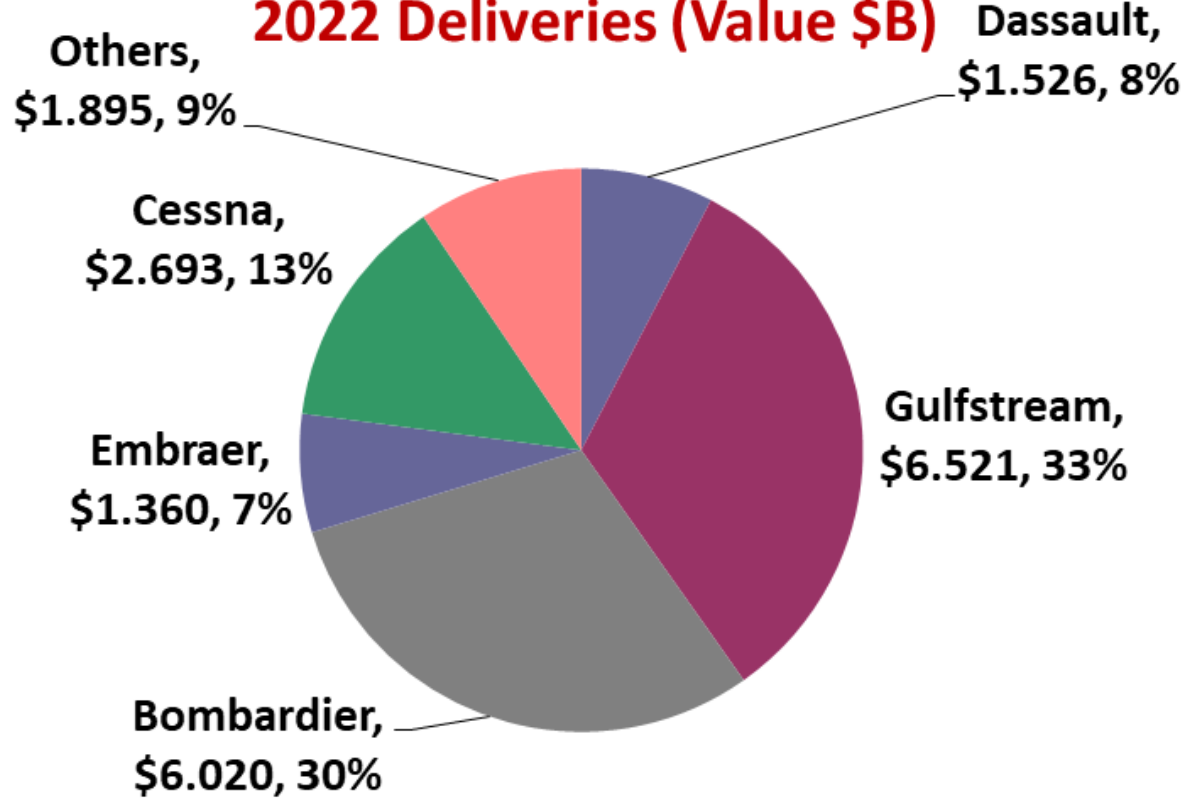
OEM	Category 1 <\$5M	Category 2 \$5-15M	Category 3 \$15-25M	Category 4 \$25-30M	Category 5 \$30-50M	Category 6 \$50M+	Bizliner Airliner Deriv.
 the evolution of mobility				Challenger 350 /3500	Challenger 650 Global 5500	Global 6500 Global 7500 Global 8000	
		Citation CJ3+ Cit. M2 GEN2 Cit. CJ4 GEN2	Sovereign+ Cit XLS+/Ascend Latitude	Longitude			
					Falcon 900LX Falcon 2000LXS	Falcon 6X Falcon 8X Falcon 10X	
	Phenom 100 EV	Phenom 300E	Praetor 500 Praetor 600				
				G280	G400 G500	G600 G650/ER/800 G700	
Others	Cirrus SF50	Pilatus PC-24 HondaJet					Boeing BBJ Airbus ACJ

In 2022 Textron Cessna Again Delivered the Most Units, GD Gulfstream the Highest Shipment Value

2022 Deliveries (Units)



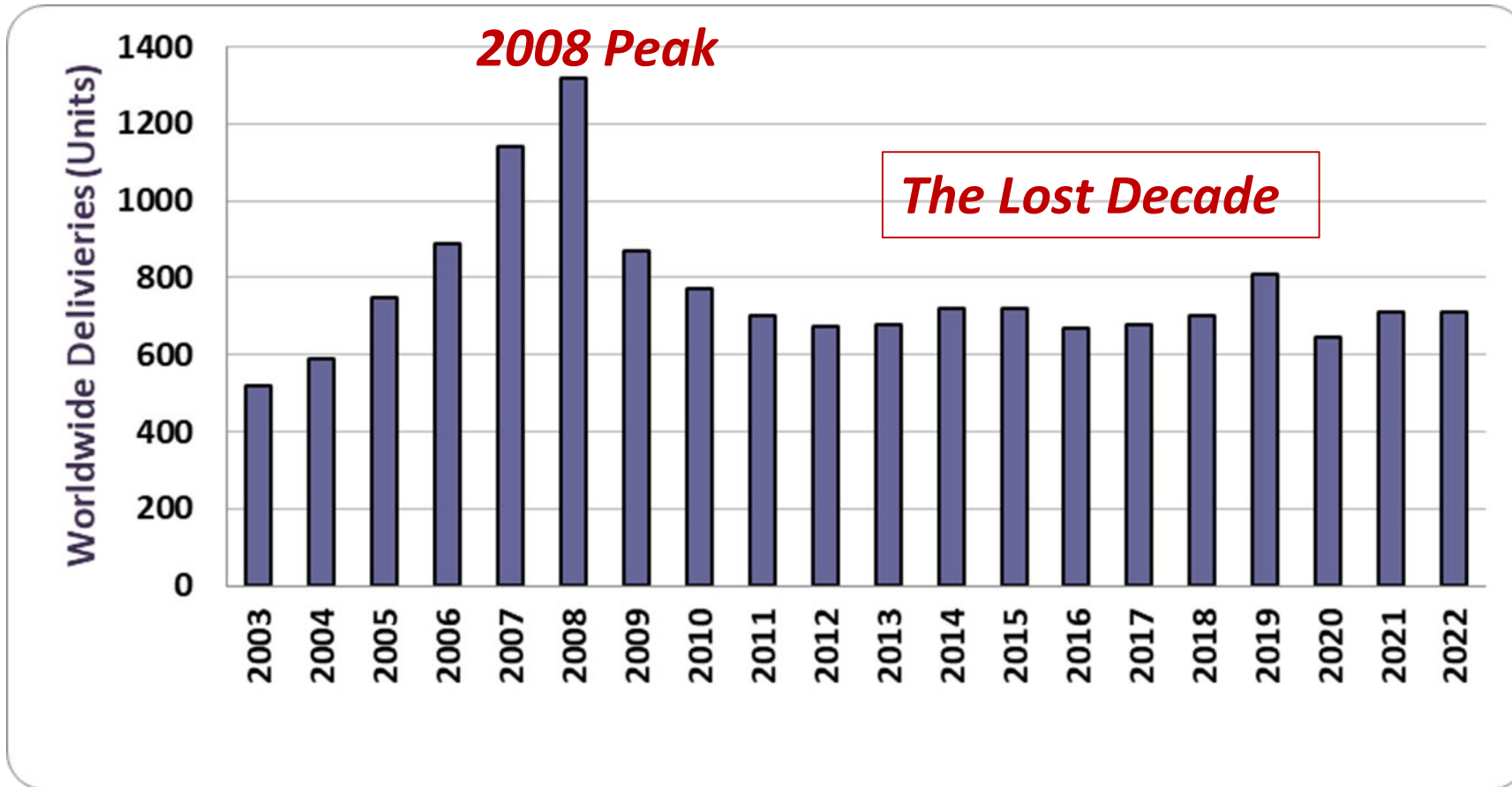
2022 Deliveries (Value \$B)



2022: 712 units worth \$20B

Sources: GAMA (units), BRiFO (Value \$2022)

After a 2008 Surge, A Lost Decade of Bizjet Deliveries



Observations

- Deliveries halved following the 2008-2009 Financial Crisis
- Remained flat for over a decade

Suddenly, Business Aviation Surged During COVID

Why Private Flying Surged

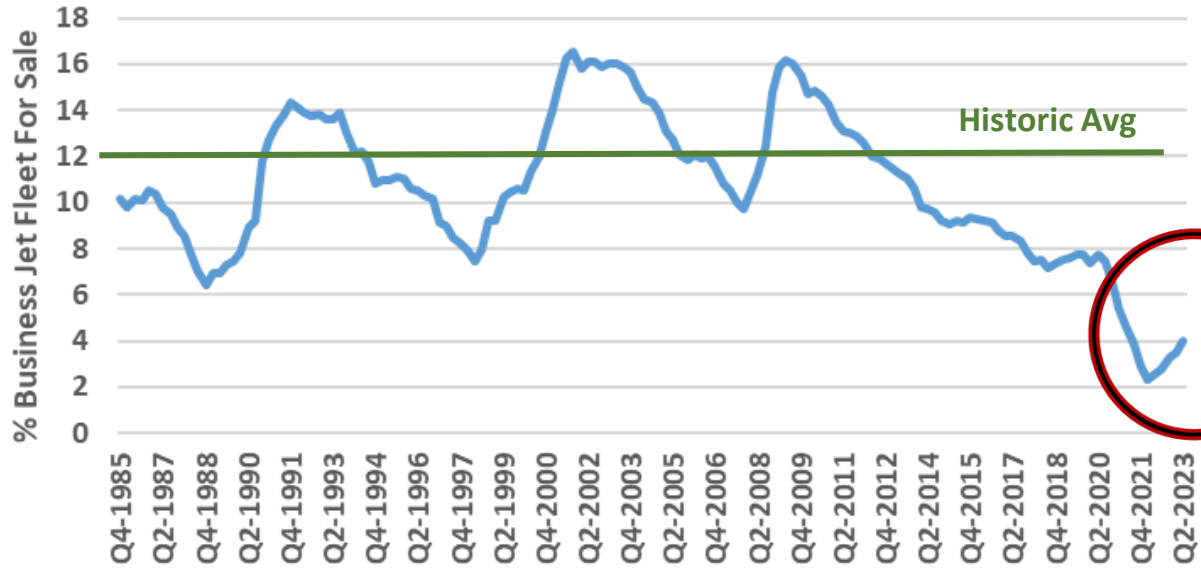
- **Avoiding airport crowds during COVID motivated new users**
- **Increased usage by existing private aircraft users**
- **Avoiding the airline experience and decreased schedules**
- **Widespread wealth creation to afford it**

What's Happened Since

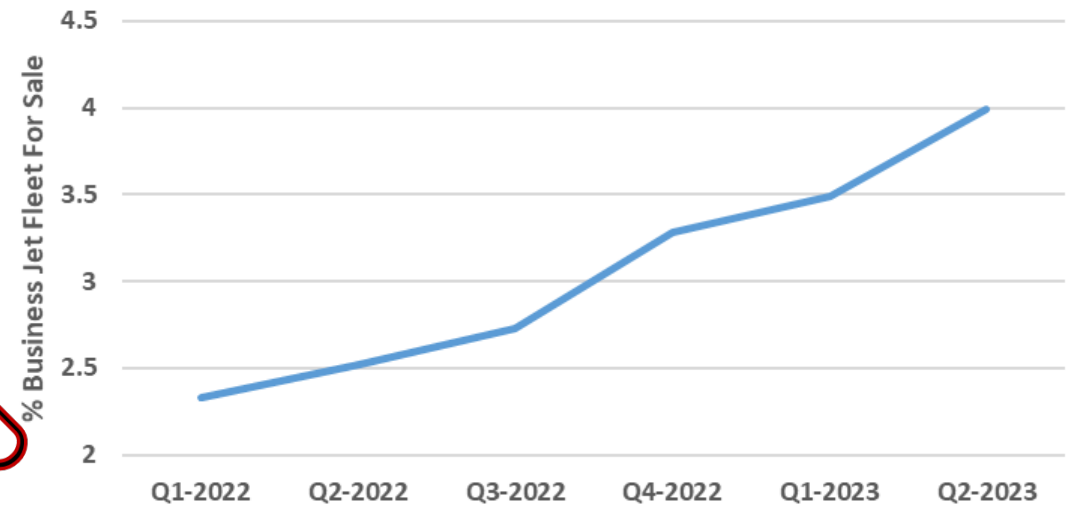
- **Worldwide economic decline and possibility of recession**
- **Fewer used sales, higher inventory, lower prices**
- **Fewer but still strong new sales**
- **Less hysteria over airport crowds; increased airline scheduling**
- **Many newcomers returned to Economy-Plus airline seats**

Preowned Bizjet Inventory Hit All-Time Lows -- Now Rebounding

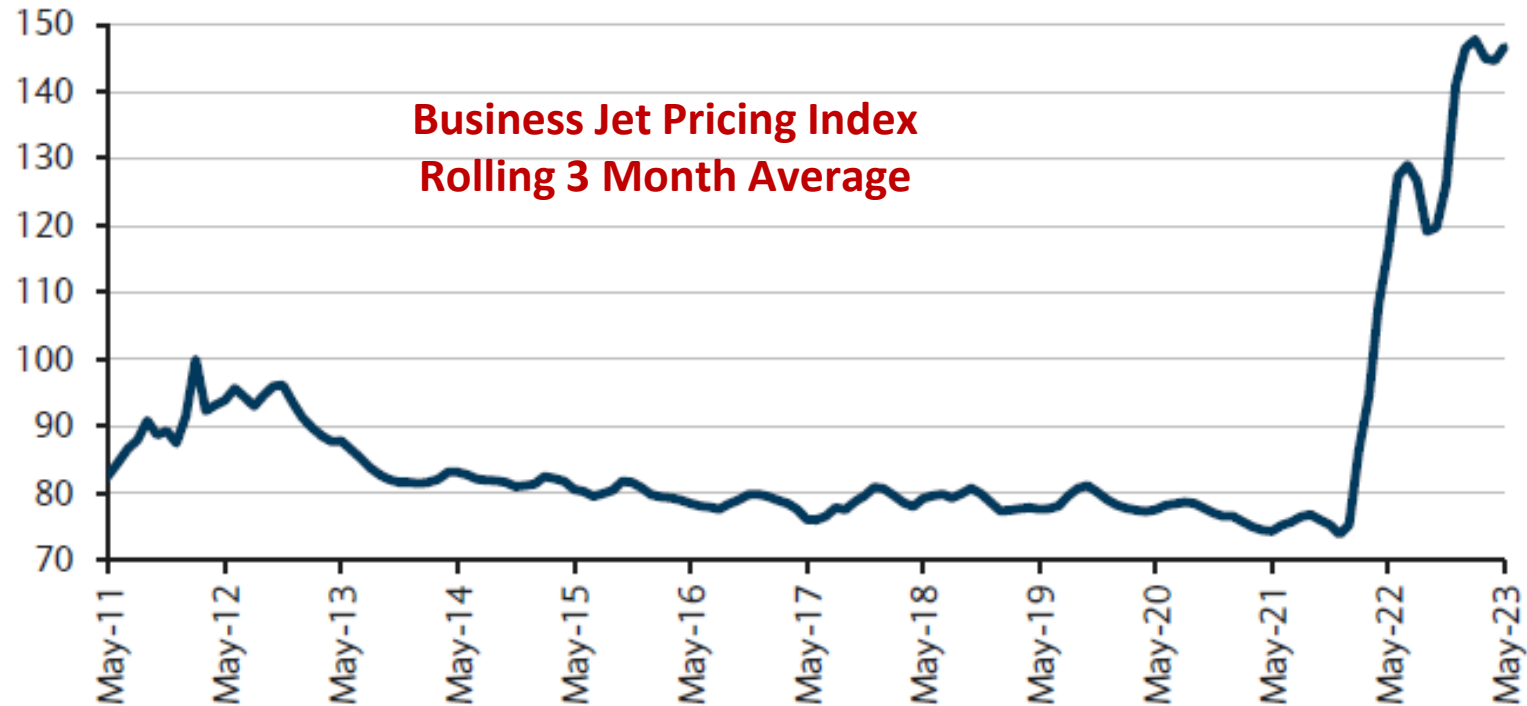
**Percent Business Jet Fleet For Sale
1985-2023**



**Rebounding
Q1 2022 - Q2 2023**



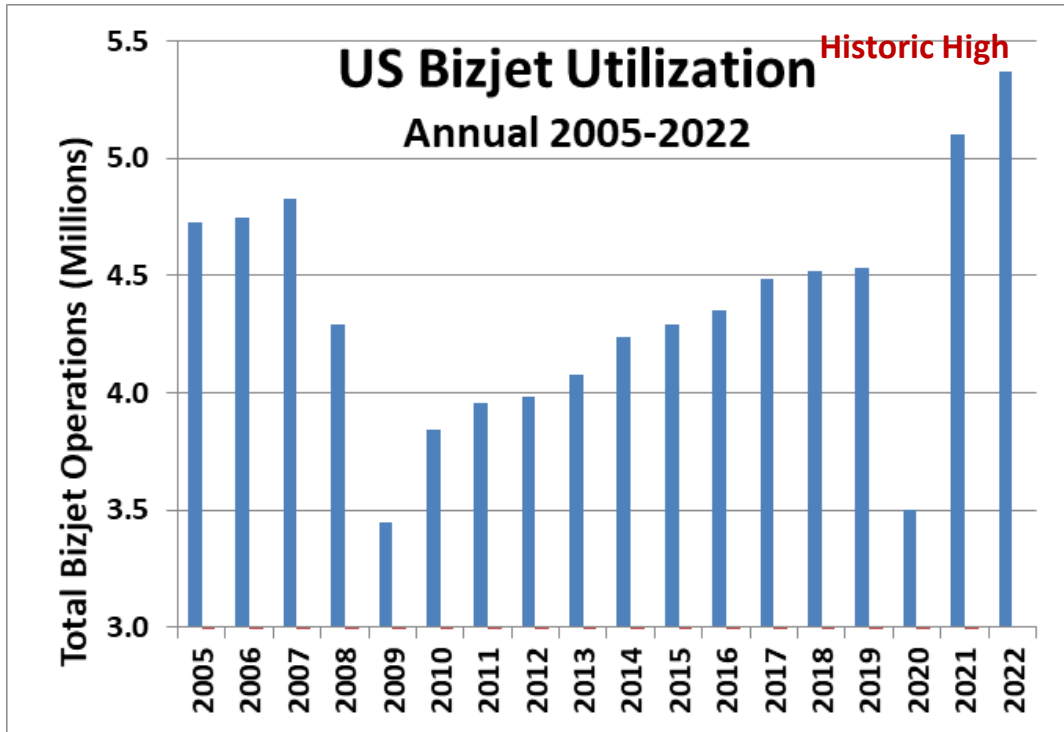
COVID Caused Preowned Prices To Spike; Have Yet To Decline Despite Inventory Increase



Observations

- Pandemic-induced low supply/high demand spiked preowned prices
- Anticipate eventual price decrease as inventory levels return to pre-COVID levels

The Pandemic Drove Record Utilization; Subsiding In 2023 But Still Above 2019



2023 Slowdown: N American Activity July 2023 vs. July 2022

	Part 91	Part 135	Fractional	All
Turboprop	-0.9%	-13.6%	2.2%	-6.4%
Light Jet	-1.3%	-13.2%	1.9%	-3.5%
Mid-Size Jet	-9.9%	-3.9%	4.8%	-3.5%
Large Jet	-0.7%	1.9%	20.1%	2.0%
All Aircraft	-2.3%	-8.5%	4.9%	-3.6%

The Recent Slowdown Arguably Benefitted The Industry

- **Manufacturers**
 - Supply chain catch up
 - Shorten delivery times
- **MROs**
 - Less utilization means fewer shop visits, but...
 - Shortened wait list and more hangar workspace
- **Labor Supply**
 - Opportunity to staff-up
- **Brokers**
 - More used inventory to buy/sell
- **Charter**
 - Lower demand allows service levels to recover
 - Less use of expensive sub-charter





Business Aviation Forecast

New Models To Help Stimulate Sales and Deliveries

Recently Began Delivery 2018+



Gulfstream 500



Gulfstream 600



Pilatus PC-24



**Global 5500
Global 6500
Global 7500**



Citation Longitude

Future Aircraft



Falcon 6X (2023)



**Falcon 10X
(2025)**



**Gulfstream G400
(2025)**



**Gulfstream G700
(2023)**



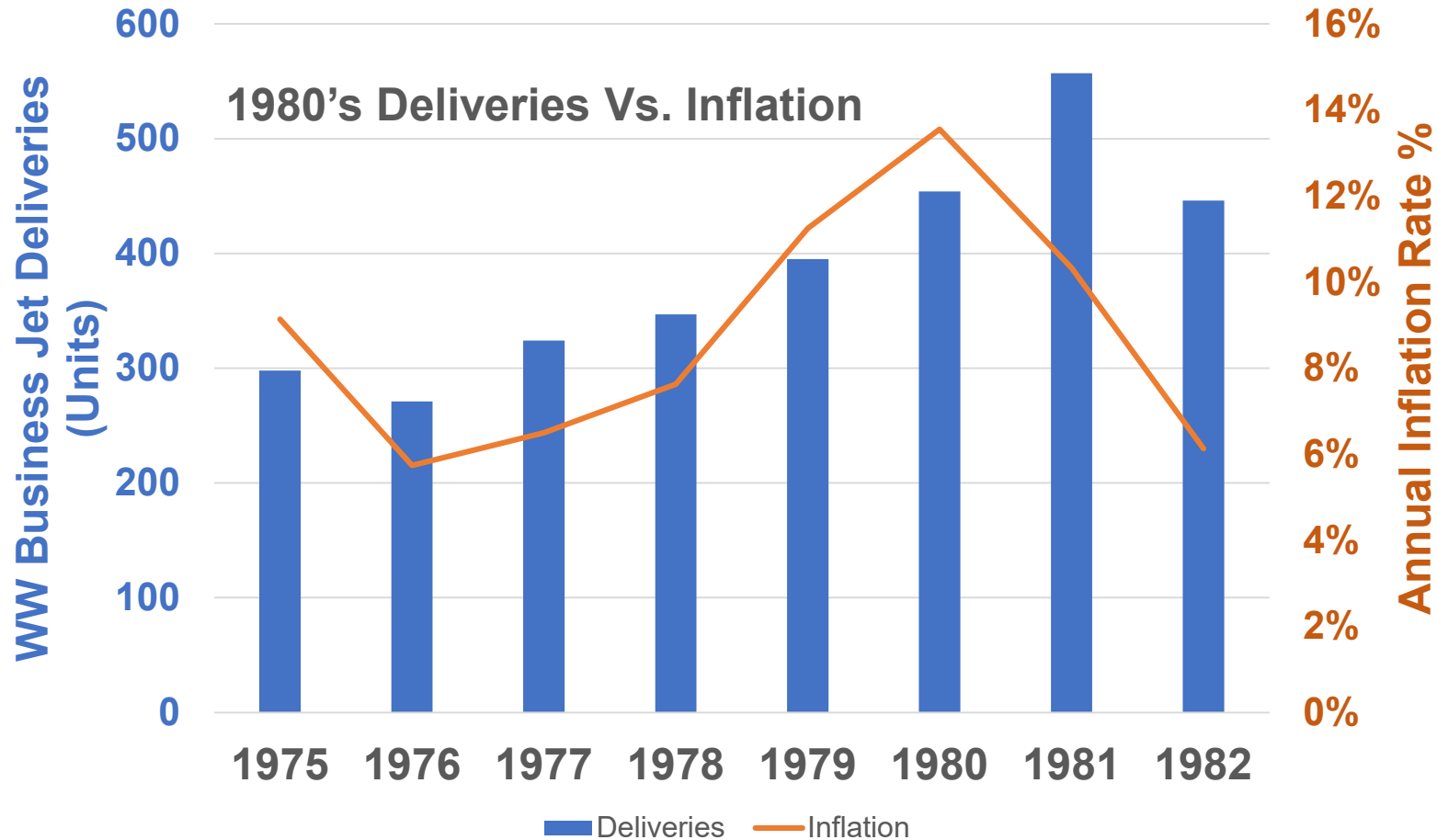
**Gulfstream G800
(2023)**



**Global 8000
(2025)**

*(Falcon 6X and Gulfstream G700
delayed from 2022 to 2023)*

Inflation Has Actually Benefitted Aircraft Sales In The Past

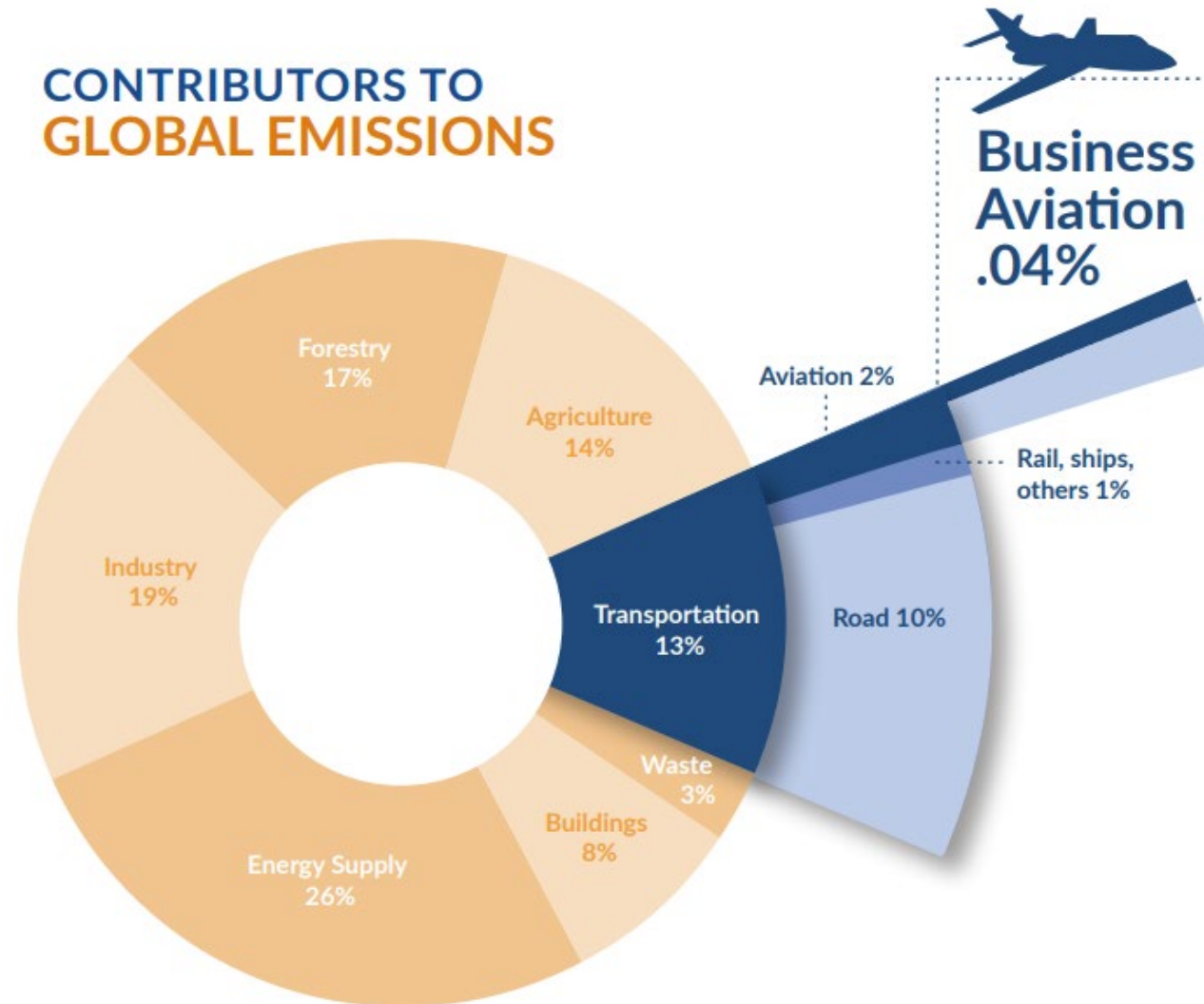


"..it is generally better to own physical things ... than dollars when inflation is high" – Elon Musk

- Observations**
- Business jets are high-value, hard assets to own during inflation
 - Deliveries more than doubled 1976-1980 as inflation rose

Business Aviation Accounts For 0.04% of Annual Worldwide Greenhouse Emissions

CONTRIBUTORS TO GLOBAL EMISSIONS



Source: NBAA



Yet Climate Activism Is Changing Market Dynamics



EBACE 2023 Geneva



Sylt, Germany



Ibiza Airport, Spain



Van Nuys, CA



Amsterdam Airport



CJI Conference, London

Flyers now shun ownership in favor of anonymity provided by fractional and charter

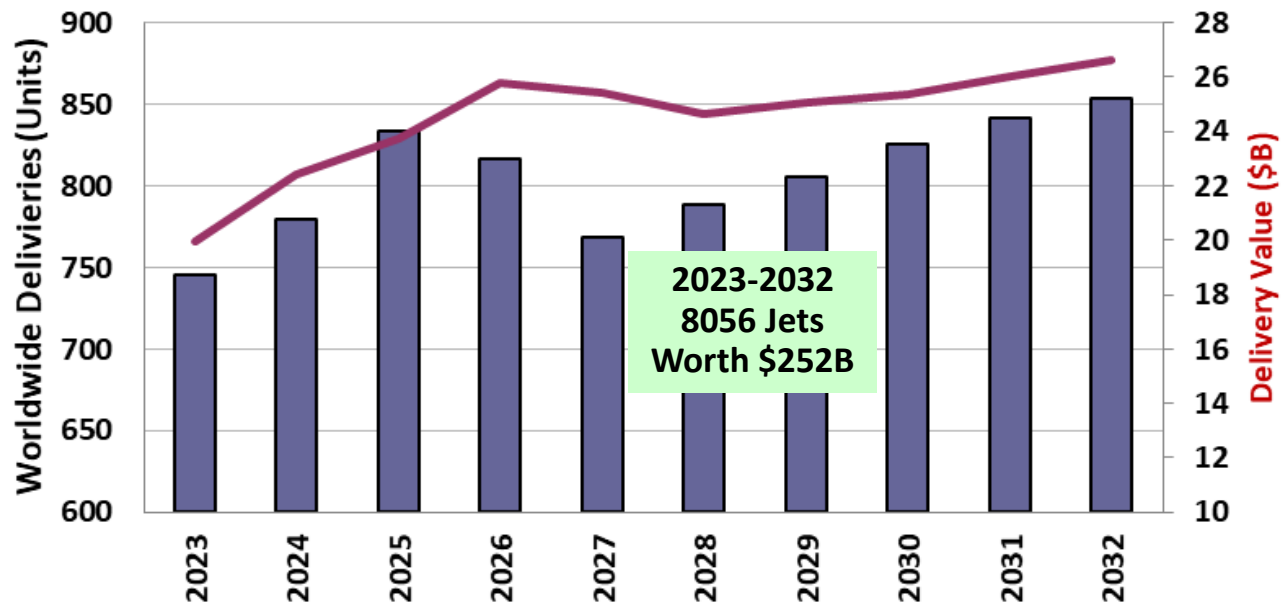
Netjets orders 1500 Textron Jets

Netjets orders 500 Embraer Jets

Flexjet orders ? (TBA at Convention 10/17)

In 2025, Deliveries To Reach Highest Level In 16 Years

Worldwide Bizjet Delivery Forecast



- Forecast trimmed 10% due to recent lost sales opportunities by OEMs unable/unwilling to execute production increases
- Near-term delivery increase based on:
 - Industry Book-to-Bill still above 1:1
 - New users to bizav: ~10% staying
 - Preowned inventory still relatively low
 - Corporate pent-up demand
 - New jet models stimulate market
- 2025 deliveries (834) highest since 2009 (871)
- Values increase near-term as expensive Falcon 6X, 10X, G400, G700, G800, Global 8000 deliver
- Assumes a recession mid-forecast
 - Forecast doesn't attempt to predict when downturns are, but to bake in the likelihood

			Future Years Units										Totals
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2023-2032
Units	710	712	745	779	834	816	768	788	805	825	842	854	8056
Value \$B	19.903	20.015	22.418	23.727	25.787	25.427	24.650	25.039	25.347	25.996	26.630	26.757	252



Risks To The Industry

- **Manufacturers**

- **Fractional/charter may defer/cancel fleet orders as utilization continues decline**
 - (Fleets 1/3 of all 2022 deliveries)
- **Speculators likely in OEM order books as long lead times grow**

- **Charter/Fractional**

- **High-profile, large fleet operators in financial difficulty**
 - **A Wheels Up default would flood market with Textron aircraft**
 - **A Vistajet default would flood market with Bombardier aircraft**
- **Smaller operations have already failed – Jet It, AeroVanti...**
- **Others with high debt ratios in high-interest rate environment to follow**
- **Defaults would flood used market with late model aircraft competing with new**



Kansas General Aviation Stable; Commercial Not So Much

- **General Aviation Consolidation Behind Us**
 - Hawker Beechcraft absorbed by Textron Aviation
 - Learjet discontinued by Bombardier
- **Loss of local skilled workforce due to closings, furloughs - left for stable industries**
- **Textron Aviation a bastion of aviation**
 - **Strengths**
 - Product portfolio, brand, support network, segment diversification, SkyCourier certification, Army Blackhawk replacement (Bell division)...
 - **Challenges:**
 - Minimal bizjet improvements, Denali certification, missed COVID surge, Wheels Up consolidation or default...
- **Local suppliers squeezed by primes**
- **Spirit AeroSystems unsettled**
 - “Boeing, Airbus contracts “not sustainable”

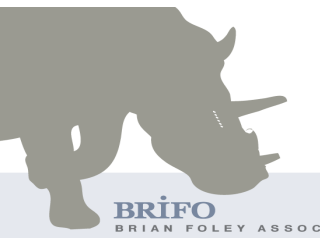




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Brian Foley Associates (BRiFO)

Independent General Aviation Experts Since 2006

Research & Strategy

Aviation Research & Analysis
Due Diligence
Forecasting
Strategic Marketing Plans
Expert Witness

Business Brokerage

List/Sell Aviation Businesses
Founder/Family-Owned
\$1-10+M Revenues
Deep Investor Contacts

Brian Foley Background

- Former senior marketing executive at business jet manufacturer Dassault Falcon Jet (20+ years)
- Views quoted in worldwide aviation and business press
- Transportation Research Board (TRB) Subcommittees:
 - 1) Business Aviation 2) Regional Airlines 3) Helicopters 4) UAVs
- Speaker at aviation conferences and meetings
- Instrument rated private pilot
- Began career in Boeing Fight Test Engineering and then Marketing
- MBA Marketing, Seattle University
BS Aerospace / Mechanical Engineering, Syracuse Univ.
Wharton Executive Education – Corporate Governance
- Forbes.com aviation contributor, AvBuyer Editor

*Industry Management Experience Prior To
Consulting Adds Real-World Perspective*