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#### **Both Sides, Now**

Pre-owned. Pre-flown. Pre-loved. However described, an earlier-generation business aircraft represents the "other side" of the market, one that doesn't typically attract Page 1 headlines and feature stories. For the majority of customers, an investment in a legacy aircraft provides many of the product attributes, features, and conveniences of a factory-new model, but at a price point that they can justify. While some buyers may one day transition to new aircraft, others are content – no, pleased – to listen to their own music and resist that pull.

Prospective buyers considering an investment in a business aircraft are wise to look at both sides of the market – new and used. With thousands of aircraft to choose from, each with its own performance and design attributes, operational pedigree, and maintenance history, the previously-owned business aircraft market is both complex and a little opaque. With large sums of money involved and the infrequency of airplane purchases, it is unimaginable to us that any would-be buyer would proceed without the guidance and trust of an experienced aircraft broker / dealer under contract.

The COVID-19 pandemic is wreaking havoc on air travel, and the disruptions are not going to be resolved quickly by edict or goodwill. In The

Great Pause, nations and regions are shuddering to a temporary standstill, with devastating effects on socioeconomic and market activity. Business aircraft utilization has plummeted, FBOs are nearsilent, and aircraft sales people are chomping at the bit to get back in front of their customers and prospects. While inventory levels are increasing, few used aircraft are being purchased at this time, which eliminates many comparables and complicates the pricing calculus. While a buyer may be seeking that young, on-program, zeroaccident, only-flown-on-Sunday hangared beauty with fresh white paint, glass up front, and 5G WiFi, new leather, cabinetry, upholstery and li-ion lighting in back, this is a journey that can easily lead nowhere – especially without a trusted guide.

## "Business aircraft today are simply not distressed assets."

Downturns in markets always attract sharks looking for blood in the water, but business aircraft today are simply not distressed assets. Underutilized? Yes. Underappreciated. Probably. Distressed? No – far from it. As more people who need to travel discover the many advantages of business aircraft, this is an asset class that <u>delivers value</u>, and one that should <u>hold its value</u> in our post-COVID-19 world.

Rollie Vincent JETNET iQ Creator/Director





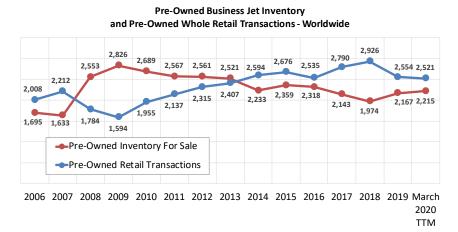
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### Outlook

After a period of steady year-over-year increasing transactions and progressively lower inventory, the global market for pre-owned business jets slowed in 2019, down about 15% YOY in transaction volume. In Q1 2020, retail whole airplane sales and lease transactions slowed further by ~6% YOY. Pre-owned business jet inventory increased about 10% in 2019, with more than 40% of available models in excess of 20 years of age. Based on preliminary data through mid-April, inventory grew by a further 6% to almost 2,300 jets. Today, ~10.2% of the worldwide business jet fleet is listed as for sale, up about 80 basis points over 2018 and 2019, but still well below levels seen in every other year since 2008. While conditions are transitioning, this is not a distressed market.

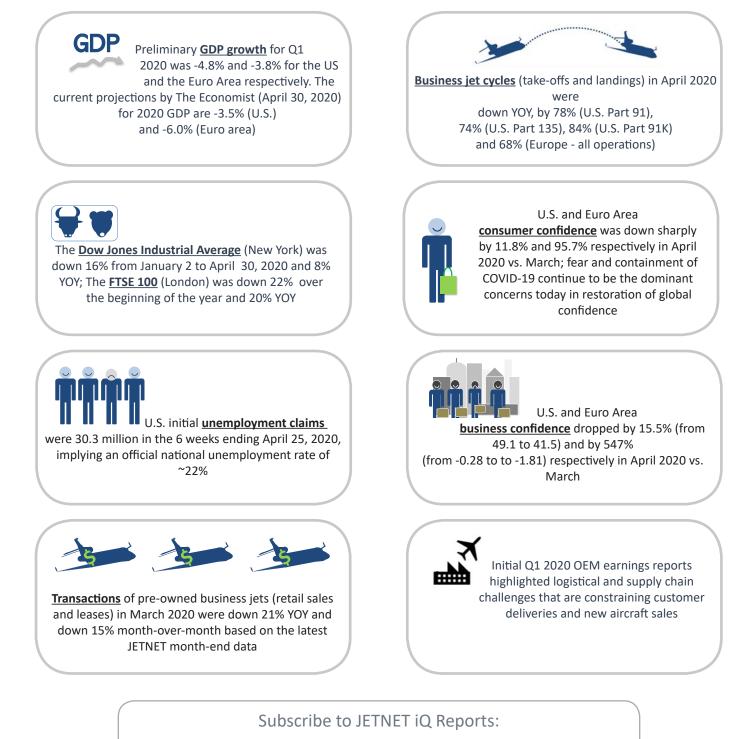


Sifting through the available pre-owned jet inventory on March 31, 2020, and isolating aircraft that have been delivered new in the last 10 years and that have been listed for sale for less than 1 year (implying that they are priced about right), there are only handfuls of the more popular models available for purchase. For example, the volume-leading Embraer Phenom 300/300E fleet (EIS in 2009) has grown to more than 540 jets worldwide, but just 5.9% of the fleet is currently listed for sale. Would-be buyers seeking a pre-owned model delivered within the last 5 years will find that there are only 7 Phenom 300 aircraft listed on the market, representing just 1.3% of the in-service fleet. Similarly, the fleet of Bombardier Challenger 300 / 350, another workhorse of the industry and well represented in high-utilization charter and fractional fleets, has grown to almost 800 jets, with 7% listed as for sale on JETNET at this time. Would-be buyers of a 0-to-5 year old Challenger 350 model are advised to forget about finding a needle in the haystack – just 6 aircraft worldwide (or 0.75% of the fleet) meet even these basic criteria. The takeaway: For a good time – and a good plane – we suggest you go hunting with an expert.

With so many different business jet models and a fleet size of 22,500 aircraft worldwide, forecasting pre-owned markets is a challenging exercise, and never more so now in light of COVID-19. If recent history is any guide, inventory began increasing at the onset of the U.S. economic recession in November 2007, as the for-sale fleet grew for almost 2 years, from 10.7% to 17.7% of the fleet by August 2009 (i.e. by about 80%). A slow but steady growth in transactions helped to bring inventory (as a % of fleet) back down to pre-recession levels after ~8 years. Sales recovery to the level of annualized transaction volumes in November 2007 (about 2,400 jets) was reached 4 years later in November 2011. There are significant differences in the pre-owned jet market today that suggest that the COVID-19 market disruption will be different than that of the 2007/2008 financial crisis. Aircraft valuations going into 2020 are not decoupled from their underlying intrinsic values - there is no bubble to burst. Credit is widely available and historically inexpensive. In the aftermath of the COVID-19 shock and in an era of reduced commercial airline capacity and flight schedules, there is an argument to be made that organizations with access to business aircraft will arrive earlier to renew relationships, rebuild their supply chains, and seize new business opportunities - probably closer to home than before, but still far enough to leverage the unique speed advantages of a business aircraft. An unknown is how the public image of business aviation will play out amongst policy makers and on Main Street - avoiding a replay of the November 2008 Capitol flight by three Detroit auto executives would be a good start. Our expectation is that inventory for sale will continue to build throughout 2020 and 2021, as some existing owners elect to exit or "right-size" their fleets. Sales will be suppressed this year and next by logistical challenges that will keep would-be buyers and sellers from those all-important face-to-face meetings when deals are closed. Until travel restrictions and lock-down procedures are widely eased, many would-be customers will presumably be pre-occupied with matters other than a new or pre-owned aircraft purchase. Ultimately, fresh pre-owned inventory and a bevy of newly certified business jet models will be part of the secret sauce to stimulate demand in a post-COVID-19 world.



### **COVID-19 Impacts**



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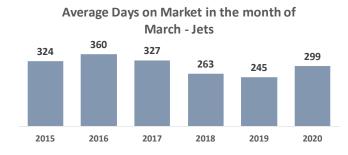


### **Transactions**

#### **Pre-owned Business Jet Transactions**



Based on the latest JETNET databases, the volume of pre-owned business jet retail sales and lease transactions was down 21% YOY in March 2020. Transaction velocity (as measured by Days on Market for pre-owned aircraft that are finding retail buyers) averaged 299 days in March 2020, 22% longer than March 2019. Both are clear signs of a weakening market.

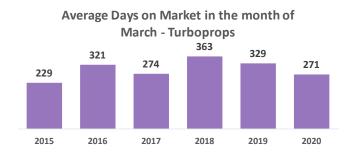


Worldwide, there were 106 retail sales and leases of turboprops in March 2020, down 23% YOY. Average Days on Market for turboprops slid to 271, down 18% from 329 days in March 2019.

Given that the COVID-19 was only announced as a global pandemic on March 11, 2020, these data do not yet fully reflect the impact of the coronavirus.



#### **Pre-owned Turboprops Transactions**



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### **Business Jet For-Sale Inventory**

#### **Small Jets**



% for Sale - Small Jets

At the beginning of May 2020, there were almost 2,300 business jets listed as "for sale" on the JETNET database. Fully 45% of this inventory was represented by aircraft initially delivered more than 20 years ago. For many would-be buyers, operators, and brokers / dealers, these older aircraft are not as market-relevant due to concerns about aging aircraft, maintenance status, regulatory compliance, parts and service availability, reliability and dispatchability, pilot and maintenance technician availability and training, and other factors.

For the purposes of this assessment, we therefore categorize the available inventory by age class, and further by the length of time an aircraft has been listed. The charts above and on the following pages represent only aircraft that have been on-market for 1 year or less, as we seek to focus on aircraft that are the most relevant to potential buyers (i.e. that have features, maintenance pedigrees, and/or pricing that are competitive and that reflect current market conditions).

Breaking out for-sale inventory of "Small Jets" (including the singleengine Cirrus Vision Jet, Very Light Jets and Light Jets), JETNET databases indicate that there were 691 aircraft listed as for sale on April 30, 2020. About 62% of this total were delivered new in the past 20 years, and ~24% within the past 10 years. Availability of very young aircraft (delivered 0-5 years ago) has increased to 5.9% of the overall fleet of Small Jets delivered over the past 5 years, up from 4% a year ago, and the highest amongst the 3 business jet size categories we analyze here.

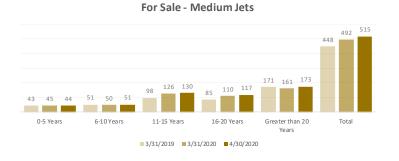
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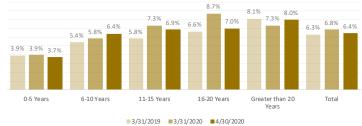


### **Business Jet For-Sale Inventory**

#### **Medium Jets**



#### % for Sale - Medium Jets



Through the end of April 2020, Medium Jet inventory, which includes the so-called Super-Light, Mid-Size, and Super Mid-Size business jet categories, was showing limited signs of impact of COVID-19 disruptions. In fact, less than 100 aircraft delivered new in the last 10 years and on the market for 1 year or less were listed as for sale on JETNET as of April 30, 2020. For buyers seeking a relatively young business jet in the middle of the market, there was still relatively limited inventory available to choose from. Most of the YOY growth in for-sale inventory has been in the 11-20 year old categories.

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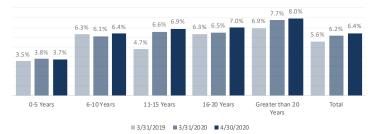


### **Business Jet For-Sale Inventory**

#### **Large Jets**



% for Sale - Large Jets



Large Jet inventory, including jets in the large cabin and long range classes (Challenger 600-family / Falcon 2000 family and larger), is little changed YOY in the 10-year or younger categories. These are the aircraft models that compete most directly with new production. YOY increases in the number and percentage of the fleet for sale is most noticeable amongst aircraft that were delivered new more than

10 years ago. Again, these inventory data reflect only those models listed for sale for 1 year or less on the JETNET database. Although the growth in inventory greater than 10 years old is noticeable, there is not yet any "on market" sign of customers stepping away from their newly delivered aircraft.

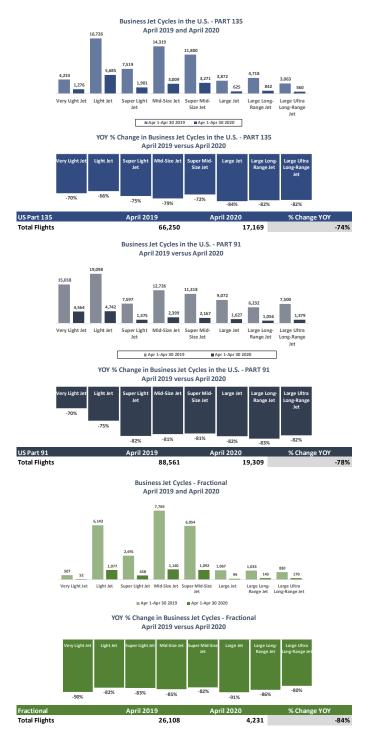
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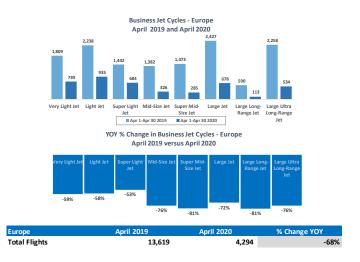


### Utilization

#### **U.S. Business Jet Utilization**



#### **European Business Jet Utilization**



On March 11, 2020, the WHO declared COVID-19 a pandemic. In an effort to curb the fallout from this virus, widespread travel restrictions have been imposed that are limiting viral transmissions from region to region, but that are having dramatic and devastating impacts on civil aviation. Most hard hit are the commercial airlines, with reports of 90-100% reductions in flights and passenger enplanements in April versus the same period last year.

In April 2020, business jet cycles in the U.S. and Europe were down by 70-85% YOY. The hardest hit sectors were U.S. Part 91K fractional (down 84%) and U.S. Part 91 non-commercial flight operations (down 78%). Across the U.S. and Europe, there is evidence that Medium Jet and Large Jet category flying has been somewhat harder hit than Small Jets, although all segments are experiencing sharp YOY reductions.

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### **Residual Values and Charter**

On April 23, 2020, we launched a JETNET iQ PULSE COVID-19 Mini-Survey to gather opinions from respondents across the industry regarding perceptions of the impact of the coronavirus on business aviation over the next 12 months. This electronic mini-survey gathered 152 respondents over a period of several days in late April 2020, including aircraft brokers/dealers, lenders and lessors, OEMs, trade organizations, transaction support specialists, and other industry players).

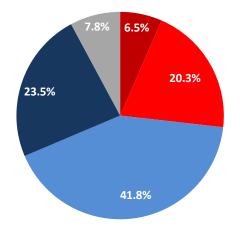
Respondents were asked to consider the impact of COVID-19 on aircraft residual values for a 5-year old aircraft. Fluctuations in aircraft valuations were a hot topic in the last industry downturn in 2008/2009, with indications that values going into the Great Recession were inflated relative to widely accepted "normal" rates of annualized depreciation. Although there is little evidence that valuations at the beginning of 2020 were similarly inflated, concerns about market prices / values have increased, especially in light of the fact that transactions slowed in March 2020, generating fewer comparables for aircraft appraisers and brokers / dealers to evaluate. About 2/3<sup>rds</sup> of JETNET iQ PULSE mini-survey respondents believe that residual values for a 5-year old aircraft will decline more quickly over the next 12 months, outnumbering those who disagree by a factor of 2.4-to-1.

About 3/4<sup>ths</sup> of mini-survey respondents believe that business aircraft charter operations will see an increase in flying in 2020, as this sector of business aviation benefits from an expected wave of interest in and demand for its services. Given the sharp reduction in Part 135 flights in the U.S. so far this year (down 74% in April 2020 YOY), respondents appear to be quite optimistic about a turnaround in charter flying as the industry emerges from the depths of the COVID-19 pandemic.

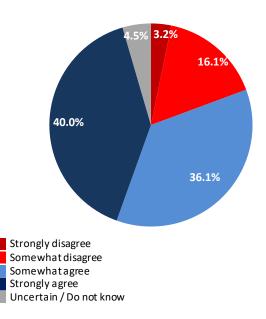
Since the beginning of 2020, the COVID-19 worldwide pandemic is having widespread impacts on our personal and business lives and on our economies. Given the changes resulting from this pandemic, please evaluate the following statements and indicate the extent to which you agree or disagree.

#### JETNET iQ Pulse COVID-19 Mini-Survey

Residual values for 5-year-old airplane will decline at a faster rate over the next 12 months



Believe there will be an increase the use of charter flying in 2020





### **Aircraft Transactions - New Business Aircraft**

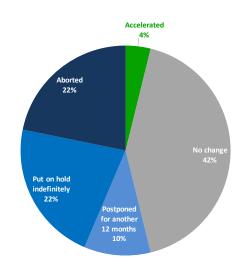
On April 27, 2020, we launched our larger **Q2 2020 JETNET iQ Global Business Aviation Survey** for owners and operators of fixed-wing turbine-powered business aircraft, gathering 124 respondents to date as of our publication deadline, with a target of 500 respondents. This survey has been conducted since late 2010, and includes more than 19,000 total respondents in 130+ countries worldwide. The Q2 2020 JETNET iQ Survey includes a wide range of questions, as well as of those that appeared in the JETNET iQ PULSE COVID-19 Mini-Survey conducted in late April 2020.

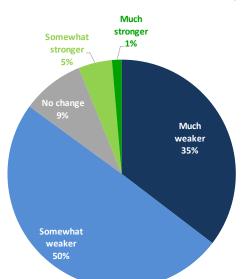
The response choices provided in the two surveys differed, since the JETNET iQ Q2 2020 survey was targeted specifically at the aircraft owner / operator community. In this case, we were seeking insights on whether or not <u>new aircraft purchase decisions</u> would be accelerated, postponed, cancelled altogether, or unchanged due to COVID-19. Given the broader profile of respondents to the JETNET iQ COVID-19 PULSE Mini-Survey, respondents were provided with more general response options (i.e. whether new aircraft transactions would be stronger, weaker, or unchanged).

Overall, 42% of the owner/operator respondents to the JETNET iQ Q2 2020 Survey felt that COVID-19 would have no impact on their decision to purchase a new business aircraft in the next 12 months, while 32% felt that transaction would be postponed, and 22% aborted. Just 9% of respondents to the JETNET iQ PULSE COVID-19 Mini Survey survey felt there would be no change to the outlook for new aircraft purchases. Almost 85% of respondents felt the demand for new business aircraft would be somewhat or much weaker in the next 12 months.

Survey results suggest that the lifting of travel restrictions to enable face-to-face meetings between OEM sales professionals and customers is imperative to secure existing sales contracts and to renegotiate delivery positions and schedules. "In your opinion, how has the COVID-19 worldwide pandemic changed the outlook for aircraft transactions for the next 12 months? <u>Purchase of a new business aircraft</u>"

JETNET iQ Q2 2020 Global Business Aviation Survey





#### JETNET iQ PULSE COVID-19 Mini Survey

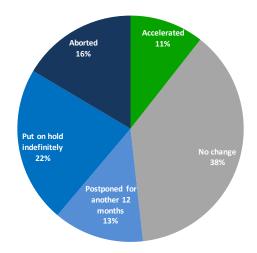


### **Aircraft Transactions - Pre-owned Business Aircraft**

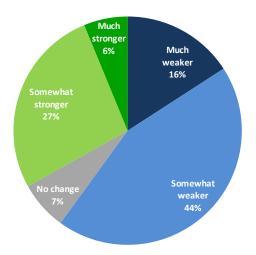
Excluding those who were uncertain or did not have an opinion, 38% of owner / operator respondents to the JETNET iQ Q2 2020 Survey (which is currently in the field) believe that there would be no change in their likelihood of purchasing a pre-owned business aircraft in the next 12 months. Fully 35% believe that their purchase transactions will be postponed, while 16% believe that they will be cancelled altogether, Interestingly, 11% believe that their pre-owned purchases will be accelerated, possibly a reflection of what they imagine is a shift towards a buyers' market in the months to come.

Respondents to the JETNET iQ PULSE COVID-19 Mini Survey appear to be somewhat more optimistic about the impacts of COVID-19 on the purchase outlook for pre-owned business aircraft, with 1/3<sup>rd</sup> of the decided indicating that the purchase outlook has actually strengthened. Nevertheless, they are outnumbered by the 60% of respondents who believe that purchase conditions have weakened. "In your opinion, how has the COVID-19 worldwide pandemic changed the outlook for aircraft transactions for the next 12 months? <u>Purchase of a pre-owned business aircraft</u>"

> JETNET iQ Q2 2020 Global Business Aviation Survey



#### JETNET iQ PULSE COVID-19 Mini Survey





### 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, NY and Rolland Vincent Associates, LLC, of Plano, TX.

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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:

COVID-19: European Centre for Disease Prevention and Control (ECDC) https://www.ecdc.europa.eu/en/novel-coronavirus-china GDP growth forecasts (2020): The Economist – April 30, 2020 Stock Markets: Dow Jones Industrial Average (DJIA): http://ca.spindices.com/indices/equity/dow-jones-industrial-average London Stock Exchange (FTSE 100) : http://www.londonstockexchange.com/statistics/ftse/htm Exchange Rates: U.S. Federal Reserve Business Confidence: US ISM Manufacturing PMI (U.S.); European Commission (Euro Area) Consumer Confidence: US ISM Manufacturing PMI (U.S.); European Commission (Euro Area) Unemployment: Bureau of Labor Statistics (U.S.); Eurostat (Euro area) Business aircraft fleet, deliveries, transactions, utilization: JETNET Survey results: JETNET iQ Global Business Aviation Surveys (Quarterly)

#### **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), 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.

DJIA: Dow Jones Industrial Average (New York) EIS: Entry in Service FTSE: Financial Times Stock Exchange (London) GDP: Gross Domestic Product OEM: Original Equipment Manufacturer TTM: Trailing Twelve Months YOY: Year over Year YTD: Year to Date

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