

FEBRUARY 2018

**A**t the 2018 Corporate Jet Investor conference held in London on 29/30 January, there were a number of interesting comments and questions which revealed that the **narrowbody business jetliner space remains relatively unknown.**

In this report, **The Sharpwings** provides some insight to this market segment and sheds light on some questions you may ask.

## Demographics & Niche Market

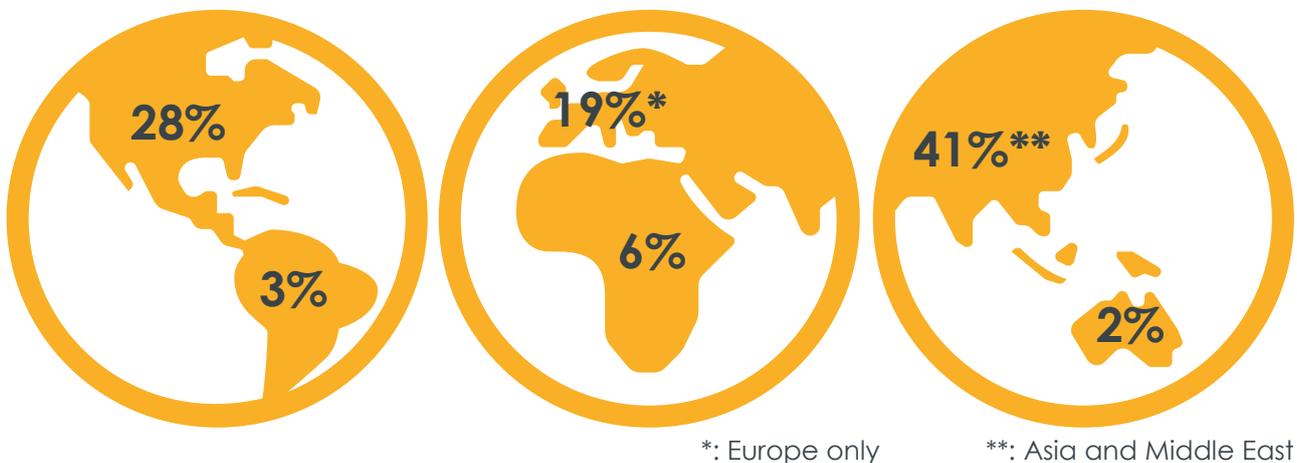
**W**ith a worldwide fleet of **less than 500 aircraft currently in service**, by all measures, the narrowbody business jetliner segment is a **niche market.**

Born in the late 1950s / early 1960s when conversions of jetliners for corporate use first occurred, it was **not until the late 1990s** that this niche market saw **Boeing and Airbus launch VIP derivatives of their single-aisle products, the BBJ and ACJ product lines.**

Fairly quickly, the **ACJs** and **BBJs** became **popular in Asia and the Middle East** where their spacious cabins, enabling the transportation of large delegations, still make them appealing.



## Narrowbody business jetliners in operation worldwide

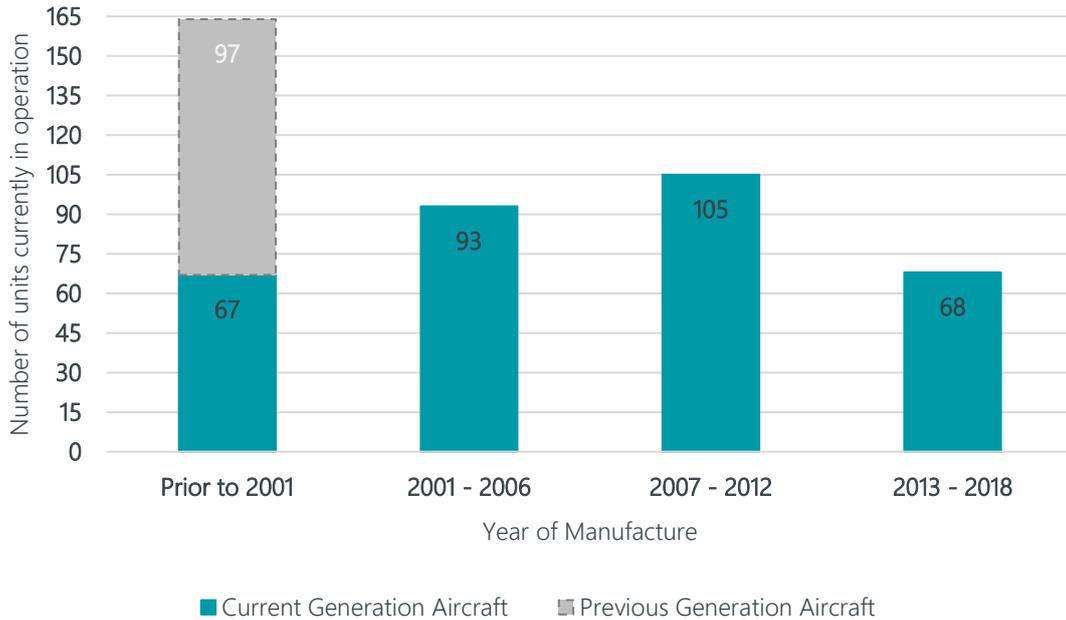


A fleet concentrated in Asia, Middle East, Europe and North America

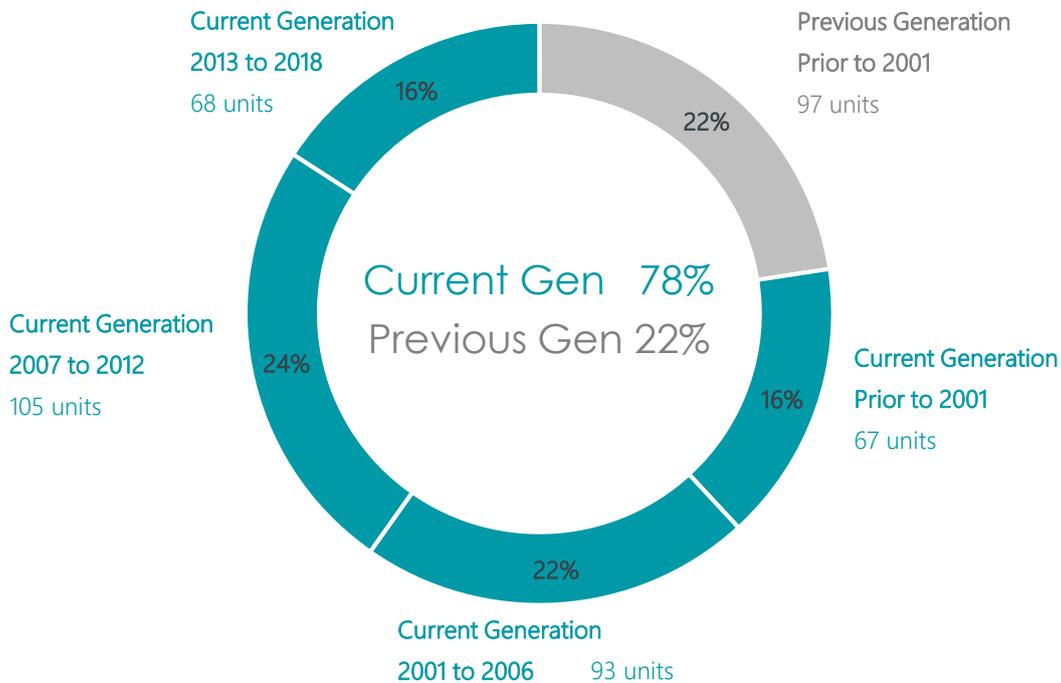
A market not driven by North America unlike most other segments in the business jet arena

Both Airbus and Boeing enjoyed **spectacular success until the turmoil began to spread across the Middle East**. Sales of new ACJs and BBJs then went quiet with a rather **lacklustre order book until the launch of the ACJNeo and BBJMax**; hence a **reduced supply of new aircraft** in this market segment **over the past few years**, as shown on the next page.

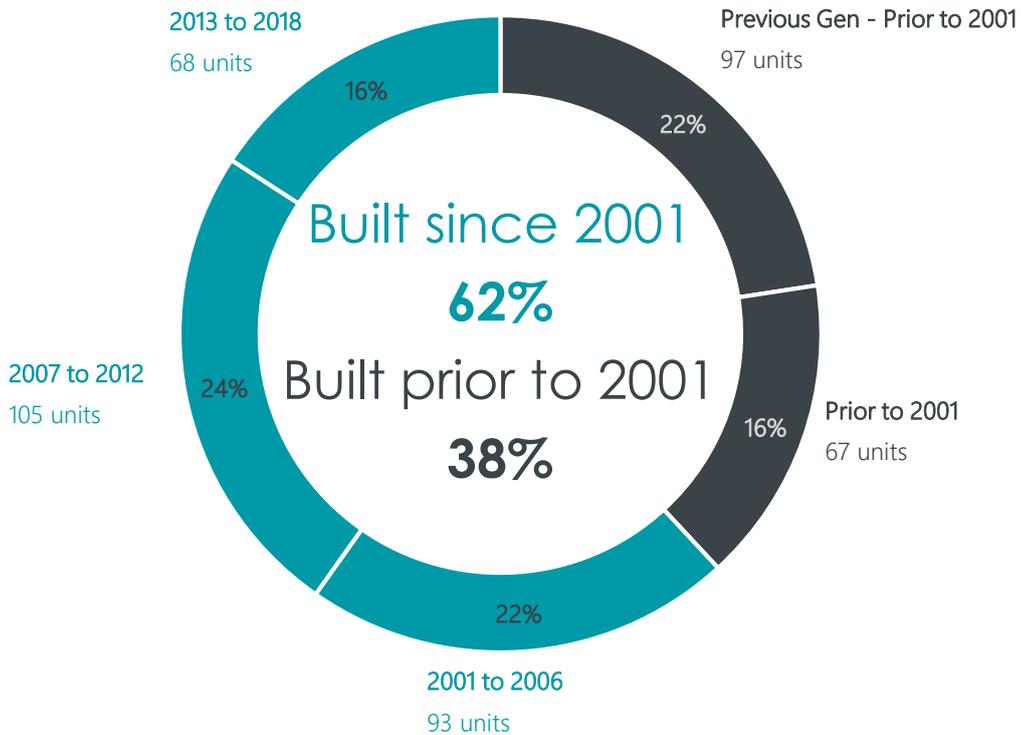
As a result, the **completion market shrunk** whilst new players had just emerged, **leading to an overcapacity** and a downward pressure on completion prices. Inevitably, this pushed away some historical players from the completion business, such as ACJC in 2016, more recently Associated Air Center and Bizjet in Tulsa which has been put in "dormant mode" by Lufthansa Technik.



## Narrowbody business jetliners – worldwide fleet by generation and age

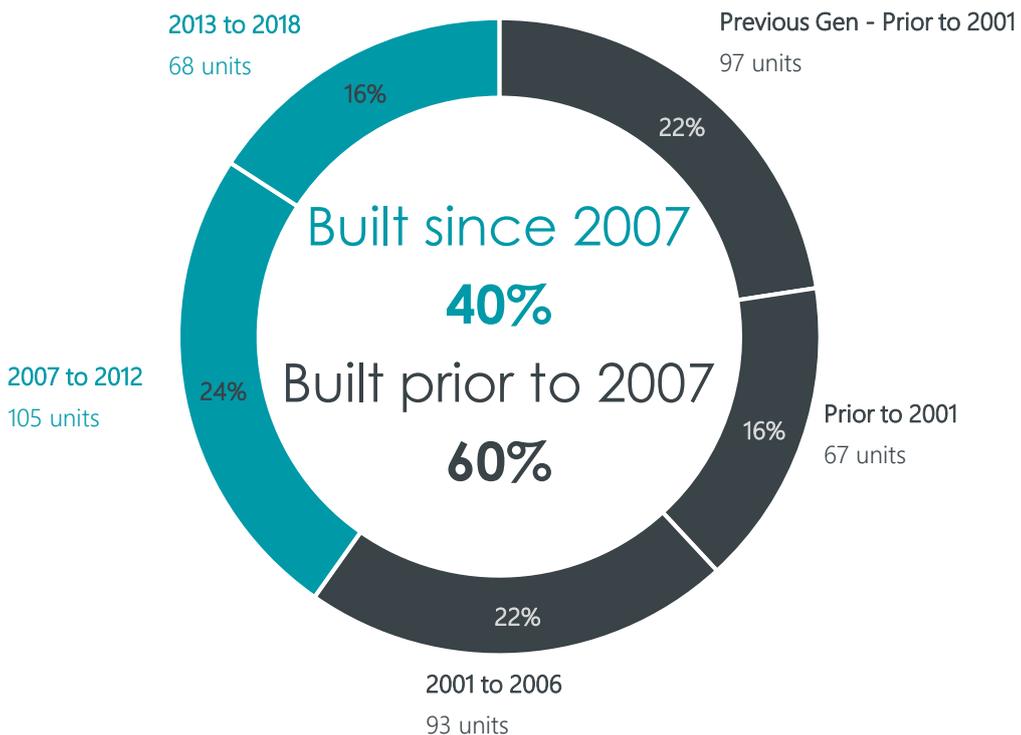


Current generation aircraft tend to be **traded** when they are **around** either **6, 12 or 18 years old**, coinciding with **heavy airframe checks**, the most opportune time for a **cabin refurbishment and upgrade** – which is a typical requirement for most buyers.



Given that nearly 40% of the worldwide fleet currently in service was built prior to 2001 (and 60% prior to 2007), the **demand for heavy airframe maintenance, cabin refurbishment and upgrade services** is expected to continue to **grow over the next few years**.

This also gives some indication on the **potential replacement market** that the **upcoming ACJNeo and BBJMax product lines can tap**.



## The Interior Question & Other Subtleties

The **aircraft interior** is often an **area of concern for financiers and purchasers** when they consider their risk exposure in financing or purchasing business jetliners. So, let us shed some light on the interior question.

Unlike other business jet manufacturers, OEMs in the narrowbody business jetliner market, with the exception of Embraer on the Lineage, do not outfit their products in house. **Customers buy the aircraft green**, i.e. unfinished and then **get them outfitted with custom interiors at specialised completion centres**. Airbus once offered “standardized” layouts on the so called A318 Elite (rebranded ACJ318 in 2011) but the type is no longer in production since 2013. Airbus exited the VIP completion business in 2016, refocusing its Airbus Corporate Jet Center from ACJ completions to upgrades for its commercial airliners.

With two to three times the interior space of the largest long-range business jet currently in production, the ACJs and BBJs offer a **wide spectrum of cabin configurations and customisation**: from VVIP interior including features such as king-sized beds or a master bathroom with full-sized shower and a private office; to interiors fully configured with business class seats for corporate shuttle missions. However, this comes at the expense of a **lengthy completion process compared to traditional business jets**, although a few completion centres have developed VIP pre-customized modular cabin concepts for the ACJ and BBJ product lines.

These also come at a **certain cost**. With completions being in the \$25 million – \$30million bracket, the interior typically represents a quarter to a third of the ACJ319Ceo/Neo and BBJ/BBJ Max7 price (brand new). Also, where and when the cabin was outfitted seems to be a factor driving the asking prices of pre-owned units.

At resale, aircraft featuring interiors that have international appeal, are likely to find new homes quicker. But be aware that prospective buyers may want to refurbish the cabin and upgrade various systems (connectivity and IFE for instance) when interiors get old; and as this is not cheap, this will ultimately be reflected in the sale price. In addition, **ACJs and BBJs** went through **incremental enhancements over time** (increased weights, winglets and avionics mandates for instance), making **optional and recommended SBs** factors that **potentially produce significant value variances**.

Despite the above, **residual values of narrowbody business jetliners are just as stable if not stronger than those of traditional long-range business jets**.



\$ 2 5 – \$ 3 0 m i l l i o n

Typical completion cost for ACJ319Ceo/Neo  
and BBJ/BBJ Max7

## Some questions you may ask

**N**arrowbody business jetliners are a niche market. Therefore, few financiers have developed the same level of knowledge and expertise of this segment compared to others in the business jet arena. So, here are answers to some questions you may ask.

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**Can narrowbody business jetliners be enrolled onto programmes?**

**The short answer is “Yes”.**

For instance, JSSI’s Tip-To-Tail® programme, covering airframe, engines and APU, is available for ACJs and BBJs. Also, without being exhaustive, GE OnPoint is available for BBJ and Lineage engines, Airbus offers its modular and tailored FHS (Flight Hour Services) solution on ACJs covering airframe and components, and Embraer offers its comprehensive airframe and parts programme, Embraer Executive Care (EEC), on the Lineage.

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**Are narrowbody business jetliners more expensive to operate than traditional long-range business jets?**

**Not necessarily.**

There are many parameters in the operating costs of any aircraft, but narrowbody business jetliners, as derivatives of proven airliner platforms produced in thousands, benefit from an unmatched spare parts and MRO network and, in some instances, benefit from simpler and more economical maintenance tasks than other business jets.

For instance, whilst most business jets require certain parts and major assemblies, such as engines, to be inspected and/or replaced at fixed intervals, more of the airliner parts are “on condition” – they do not need to be replaced unless they are wearing or worn out.

Also, there are many more pilots and maintenance technicians qualified on airliners than traditional business jets; this tends to lower crew costs and maintenance labour rates.

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**Do narrowbody business jetliners match the performance of other long-range business jets?**

**There isn’t a simple and single answer to this question.**

The common view is that narrowbody business jetliners do not have the same range capability or runway performance as the top-end traditional business jets.

The reality is that, subject to the cabin weight, the range of an ACJ319Neo or a BBJ with a typical executive payload of eight passengers, is nearly on par with the range of most long-range business jet models currently in production. Some of them require roughly the same runway length to take-off and land as the ACJ319 and the BBJ.

However, there are two noteworthy differences. Traditional long-range business jets can fly higher and cruise faster than any narrowbody business jetliner. Narrowbody business jetliners are much heavier than other long-range business jets and therefore cannot operate from some airports where other long-range business jets can (for instance Teterboro airport which has a 100,000-pound weight limit).

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**Do narrowbody business jetliners and purpose-built long-range business jets compete?**

**Originally no, but nowadays they progressively tend to.**

On the one hand, apart from the ACJ319, BBJ and VIP 757, narrowbody business jetliners lack the range of purpose-built long-range business jets. On the other, no traditional long-range business jet can comfortably fly large delegations on long haul missions. Most narrowbody business jetliners can.

But a new generation of aircraft may slightly reshuffle the cards.

The upcoming Global 7000 will mark the arrival of larger purpose-built long-range business jets – the first of its kind that can offer a four-zone layout and a sizeable crew rest area, a feature uniquely available on narrowbody business jetliners so far.

Powered by much more efficient engines, the ACJNeo and BBJMax product lines will offer significant range improvements over their legacy predecessors – the range of the ACJ319Neo and BBJMax7 with eight passengers will exceed 6,750 Nm, nearly as much as the Global 7000 and the G650 and more than the Falcon 8X.

Purpose-built long-range business jets shortly coming to market, like the Global 7000, still do not match the cabin space of narrowbody business jetliners. The ACJNeo and BBJMax still cruise slower and are much heavier than traditional long-range business jets.

But the trend is there. Purpose-built long-range business jets are becoming wider and bigger whilst narrowbody business jetliners are getting longer legs. So, whilst they belong to different market segments, they increasingly converge and therefore compete more.

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## Notes

**Current generation narrowbody business jetliners** include Airbus ACJ318, ACJ319 and ACJ320, Boeing BBJ, BBJ2 and BBJ3, Embraer Lineage 1000, Sukhoi Business Jet and executive/corporate converted Airbus A320, Boeing 737-700 and 737-800.

**Previous generation narrowbody business jetliners** include executive/corporate converted Boeing 727, 737-200, 737 Classics, 757, McDonnell Douglas DC-9 and MD-80 series, Fokker 70 and 100, BAe 146 and Avro RJ70.

**Traditional / purpose-built long-range business jets** include in-production and upcoming models, i.e. Falcon 7X and 8X, Global 5000, 6000 and 7000, Gulfstream G500, G550, G600, G650 and G650ER.