
Highlights of Zenith Jet's 2011 'Ten Year Forecast'

- Total deliveries over forecast period (2011-2020): 11,103 units
- Total billings (revenues): \$245 billion (reflecting 2011 pricing)
- Expected compounded annual growth of new aircraft deliveries, 2011-2016: 15%
- A notable increase in demand for long range and large business jets will continue from emerging markets
- Increased price competition will characterize the long range business jet market as OEMs look to capitalize on demand
- Order backlog levels likely to decline in short-term as manufacturers manage the alignment of their order intake and production rates
- Demand for light and mid-size business jets remains weak, but production levels will ramp up quickly as market recovers
- Opportunities exist for OEMs to develop new clean sheet designs as existing airframe platforms are increasingly unlikely to yield successful derivatives

June 2011– The following is a summary of Zenith Jet's second annual business aviation market forecast.

Industry backlog & order intake rate

Current consolidated business aviation backlogs are estimated at approximately \$20 billion dollars, considerably down from their \$80 billion dollar peak in 2008. However, the current backlog represents in-production, non-fractional orders and form a relatively secure production schedule over the next 18 to 24 months. Furthermore, cancellations and deferrals have considerably eased which has measurably improved net order intake rates. Widebody manufacturers, for the most part, experienced positive order intake rates in 2010 with Bombardier and Gulfstream in particular showing a positive net order intake rate for every quarter in 2010. As such, we've concluded that, at this point in time in the business cycle, the backlog integrity and the order intake rate status constitute a solid starting point for the recovery to take shape.

Units & Revenues over forecast period

Zenith Jet estimates that over the next 10 year forecast horizon, the industry will deliver over 11,000 units representing \$245 billion dollars. The current business cycle will have a six-year recovery run (much like the last two business cycles) growing at a 15% compounded annual growth rate over the recovery. We expect an industry slowdown taking shape in 2016, but unlike the 2009 recession, we see a much softer downturn as manufacturers ease production on slowing demand. Cessna will secure unit leadership with a market share of just under 30% while Bombardier will secure revenue market share leadership with just over 27%.

New product development from OEMs

Over the forecast period we see a few opportunities for manufactures to not only bring new clean sheet designs to market but also extract derivatives from those aircraft programs as well. We view this as critical to optimizing aircraft programs from an engineering, financial (cost of aircraft program) and operating economic standpoint. In particular, Cessna, Gulfstream and Dassault are well positioned as they have mature products which could be deployed in multiple segments.

Segment breakdown of unit delivery performance by model type & manufacturer

A unique feature of the Zenith Jet forecast is the segment by segment breakdown detailing the models that compete in each segment along with an assessment of their competitive advantage. Unit delivery and revenue market share is also provided. The following is a recap of the each segment:

Personal Jets

This segment is essentially contested by Cessna and Embraer both of which have very strong offerings with the Mustang and Phenom 100 respectively. Honda enters the fray in 2013 with its HondaJet but is relegated to third place and does not challenge the frontrunners for segment leadership anytime during the forecast horizon. Although unit delivery figures are the highest from any other segment (2,196 units), fractional and air taxi business models accounted for much of their projected growth which was wiped away during the last downturn. Projected revenues in this segment are forecasted to exceed \$8.0 billion.

Very Light Jets

An historical Cessna stronghold will continue as such on the strength of its CJ2+ offering in the segment. Hawker Beechcraft's Premier IA runs a distant second in the segment. The Hawker 200 (a rebranded version of the Premier II upgrade) is scheduled to enter service in 2013 has the potential of growing its market share at the expense of Cessna provided program development issues are ironed-out and they manage to have a successful entry-into-service. The segment will deliver 672 aircraft representing \$4.9 billion in revenues over the forecast period.

Light Jets

Another segment where Cessna and Embraer go head-to-head with strong offerings. Cessna's CJ4 is just coming into steady state in terms of production as is Embraer's Phenom 300. Much like the Personal Jet segment, we see this segment as a virtual tie between the two narrowbody manufacturers over the forecast period as Cessna leverages a new product with world class product support and Embraer counters with advanced technology in the Phenom 300. The segment's unit deliveries within the 10 year forecast period are slated to 1,243 aircraft, translating into \$10.6 billion in revenues.

Super Light Jets

Another two player segment contested by Cessna and Bombardier historically dominated by Cessna with its Excel/XLS/+ product line against the latter's Learjet 45XR. Based on statement from Cessna, we expect Cessna to introduce a brand new clean sheet design in this segment in the near future and have configured our model to reflect this probability. This segment will deliver approximately 1,000 units representing over \$12 billion in revenues over the forecast period.

Midsized Jets

A very crowded segment contested by no less than five (5) manufacturers. Hawker Beechcraft is the historic segment leader building an impressive installed base of customers which it successfully turned over in securing significant trade-even demand. However, new entrants by Bombardier with their Learjet85 and Embraer's Legacy 450 will mount a serious challenge to Hawker's leadership eventually supplanting it. This segment will deliver over 1,100 units representing almost \$19 billion in revenues over the forecast period.

Super Midsized Jets

Possibly the fiercest competition between the manufacturers is mounted in the Super Midsized

segment. Virtually every single competitor has a particular value proposition it successfully leverages to secure market share. All six aircraft OEMs will have a product in this segment as of 2017. The segment is arguably the most strategic in business aviation as it occupies a “sweet-spot” where manufacturers draw on the installed bases of several segments (up and down the segment scale) to secure orders. In terms of unit delivery and revenue performance for the Super Midsize segment over the forecast period, it will secure over 1,300 units and approximately \$30 billion in revenues.

Large Jets

As we edge up the segment scale, the stakes become considerable higher. This segment has been historically contested by Bombardier and Dassault with their Challenger series models and F2000 variants respectively. However, both these aircraft are mature programs and an opportunity exists for introduction of new offerings and potentially another entrant within the forecast period. This segment will deliver just over 1,000 units representing \$32 billion in revenues.

Super Large Jets

A segment where Gulfstream has secured segment leadership based on its venerable G450 model for years also has a strong (segment) presence from Dassault and Bombardier with the F900 variants and the Global 5000 respectively. Segment unit delivery and revenues figures over the forecast period are slated to reach approximately 1,000 units representing over \$42 billion in revenues.

Ultra Long Range Jets

If business aviation had a flag ship or signature segment, it would be the Ultra Long Range segment. Contested by the “big 3” widebody manufacturers, Gulfstream, Bombardier and Dassault, the competition level has exponentially increased with the launch of the G650 and Bombardier’s counter with the new Global Express family i.e. the G7000 and G8000. Furthermore, both Gulfstream and Bombardier intend to continue producing their current ULR products, the G550 and XRS. This crowding in the segment with multiple offerings from Gulfstream and Bombardier has placed a spotlight on Dassault on a potential response. In addition, we are contemplating whether the new platforms form a new higher-end “Super Long Range” segment. Based on the orders for the new models and a potential response from Dassault, such a reorientation of the business aviation segmentation might be in the cards. With the current product line launches and in-production models in the segment, we forecast a unit delivery performance of just over 1,200 units representing almost \$70 billion in revenues.

Converted Airliners

We see greater opportunities for smaller converted airliner models like Bombardier’s CL850 and the Embraer’s Lineage 1000 compared to their larger BBJ and ACJ brethren. Furthermore, with new aircraft availability (i.e. lead times) for these models no longer an issue, the prospects of new aircraft sales being affected by re-cycled commercial airliners has significantly diminished which should help spur orders. This segment will deliver a little over 300 units representing \$16 billion in revenues.

Discernable trends of regional (unit delivery) performance

We see discernable regional trends taking shape over the next 10 years. For example, the international market will favor primarily a widebody profile. In terms of narrowbody demand internationally, it will be predominantly split between Cessna and Embraer. Also, the percentage of new customers to business aviation (primarily coming from emerging markets) will be

unprecedented over the next 10 years. Regarding regional unit delivery performance, the trend of emerging markets contributing to growth and favoring the international market for orders over the North American installed base will continue. Latin America, Asia, the US, Russia and Africa will be significant drivers for growth while Europe and the Middle East deal with indigenous issues that may prevent them from realizing their true demand potential.

Engine & Avionics OEMs

Advances in engine technology, new entrants and changing market orientations will have a significant impact on the engine OEM competitive landscape in business aviation over the next 10 years. In particular, with a solid mix of new and mature programs, Rolls-Royce, Pratt & Whitney Canada and Honeywell are poised to figure prominently. However, we expect GE and Snecma to make considerable market share headway with the introduction of new powerplants.

With respect to avionics OEMs, Rockwell Collins and Honeywell will secure the brunt of the avionics unit and revenue market share in business aviation. However, the emergence of Garmin may eventually cement their presence as a solid third flight deck system provider. Garmin is already well entrenched at the lower-tier of the business aviation segments and with new programs expected and supplier decisions pending, they (Garmin) may eventually capture platforms that were traditionally Rockwell and Honeywell customers.

Zenith Jet Methodology

An ideal reference for analysts, manufacturers, suppliers and other professionals with an interest in business aviation, Zenith Jet's 2011 'Ten Year Forecast' is unique to business aviation as it uses a demand-based bottom-up methodology that takes into account OEM installed bases, customer purchase trends (such as trade-up and trade-even buying patterns), loyalty rates, historical OEM market share in segments, OEM product strategies and other demand drivers. The forecast is available for download at www.zenithjet.com for \$499 (US).

Zenith Jet's forecast is proprietary and only reflects the current views and expectations of Zenith Jet's management with respect to the business aviation industry based on information available at the time the forecast was prepared. Consequently, it is understood that the forecast is subject to risks and uncertainties that could cause actual results to differ materially from those contemplated in the forecast. Zenith Jet makes no representations whatsoever (whether express or implied) with respect to its forecast and shall not be liable for any direct, incidental, consequential, indirect or punitive damages arising out of the use of, or reliance upon, the forecast by anyone.

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