AIRINSIGHTRESEARCH

©2017 AirInsight

AIR17

Octobre 1

BOEING SHIFTS TO TOP GEAR

Key Takeaways

"Those who have knowledge, don't predict. Those who predict, don't have knowledge." Lao Tzu

In other news:

Monarch is no more and we are sorry to see them go. We had the opportunity to fly them in the past, always sad to see a part of British aviation history disappear.

45+45 for SpiceJet: Q400, as we have suggested many times this year, will maintain its traction in the regional market, a welcome breather for Downsview

A380 Chinese rumors. A380 makes sense for Chinese airlines but there are other issues that needs sorting about the airplane future planned improvement plans.

American Airlines and SilkAir have taken delivery of their first 737 MAX 8 aircraft. Entry in service is scheduled for later this year.

Competition is heating up in India for the single engine combat aircraft procurement. Gripen E is our favorite, but as we said many times in the past, politics and markets don't necessarily mix well

Congratulations to the Toulouse Business School Aerospace MBA Class of 17.

Michel Merluzeau

Director, Aerospace Market Analysis | AirInsightResearch mmerluzeau@airinsight.com www.airinsightresearch.com As we steadily continue our march into 2017, what has already proven to be a banner year at several levels is likely to deliver more in the next few weeks as well. Before getting into the debate surrounding the UTC-Rockwell Collins marriage, we are turning our attention to how Boeing will transform itself over the next few years into a more integrated organization with greater emphasis on services and financial outreach. We met with Stan Deal, President and Chief Executive Officer of Boeing Global Services at BCA's HQ in Seattle. Our conversation generally confirmed our positive outlook for Boeing's services initiative, with very few elements to be resolved yet, a notable exception being the response from Tier 1 suppliers. Here are some of the highlights of our conversation:

Services Rationale: Deal argues that change was necessary and gradual. Under Jim NcNerney, "changes were driven by a realignment of the company and getting the company back on stable tracks."

"We looked, what could we do differently and be better at?"

Deal's hypothesis was that "to be a better service provider, you need to operate in a different environment". Highlighting the different tempo and definite particulars of the aircraft production side of the business, he emphasizes the point that these sides "have a tempo and a clock speed, it's very good for manufacturing, but it's not as flexible, adaptable and agile to support the service environment

"Agility blends speed with purpose"

The goal is to bring some level of entrepreneurial agility to the services business, the services business does not according to Deal "put the company at risk, so a degree of freedom to move faster and invest and create growth around new innovative services was an atmosphere I have been working very hard to create"

"Get the foundation, build really well on our existing portfolio, get the cost profile at where we are best in class in the market…and continue to add to that portfolio over time through a series of organic investments and then obviously, we will look at selective M&A."

New enterprise positioning: airplanes all the way to services. This new positioning implies a radical shift from the aircraft sales driven approach to a more integrated customer solution offering dealing with new & longer product lifecycles. Deal confirms that to us "you hit on a very good point, it was a key debate internally, there is a separation thesis but there is an integration thesis, and the big part of the integration thesis was to even-fuse the selling teams tighter together as part of this move... and have a highly integrated team at the point of sale"

"we further fuse the airplane selling team and the service selling team into a cohesive selling team that can run a deal across the value stream for the customer" ... the moniker in the second century will be Boeing as a lifecycle provider across the industry.

New opportunities driven by market growth and new customers: We were curious to hear from Stan Deal on the issue of market growth and creation opportunities driven in part by the new services business model. *"We have become very flexible on how we go to market, one of the key learnings when we rolled out Goldcare was that it was a one size fits all and it did not work at all... We then got sophisticated in terms of our approach and being able to mix and match care arrangements, that flexible approach has allowed us to expand fairly rapidly in our fleetcare agreements over the past four to five years".*

When asked about supporting growth and creation, Deal agrees that "you have seen this wave of evolution, where there are, particularly in Asia Pacific, a lot of low cost startups coming into the market... it is a combination of a maturing market and this untapped growth, think about the disposal income that's becoming available to spend money on tickets".

Suppliers and a changing relationship: Following years of price squeeze from aircraft OEMs, aerospace suppliers find themselves under pressure from the same OEMs looking to capture a share of the services business, a segment where suppliers have traditionally been able to benefit from very favorable pricing. Deal insists that "there is probably a category of suppliers that should be worried, but broadly we need a supply chain that's robust, that's healthy, to me the ideal supplier for Boeing is somebody that is aligned from this perspective."

On suppliers: "...continuing to invest in manufacturing and things that drive productivity into their system, that's a great supplier in our mind. Suppliers that continue to invest in R&D for technology differentiation, those are also suppliers we like, and then obviously that's all on a foundation of high performance"

Suppliers ability to work in sync with Boeing's is increasingly fundamental to sustaining stronger partnerships "an ability to rate up when we rate up and stand behind their products when there is an issue, because there are always issues that will arise. I often tell suppliers, it's how you react when there is a problem that makes a difference". Deal addresses the issue very candidly and in a manner already familiar to us "We have been very vocal about selectively looking at some vertical content, we have announced a new Boeing avionics and you should characterize that around some key value st reams not the big broad element, this is very much in key areas and we are very serious about it.

"We are selectively vertically integrated, but that's not an infinite vertical integration, there is still room to play for some of the suppliers. We have zero tolerance for bad performing suppliers in our supply chain, as I hope Airbus does"

The information contained in this document is based on rigorous and independent analysis. Airlnsight cannot be held accountable for any changes in market conditions not presented or anticipated in this document either in writing or discussed, and which may adversely affect the recipient's businesses or investments. Additionally, recipients of this information agree that the author shall not be liable for any consequential damages suffered in relation to the subject area and/or business decisions based on any of the research findings presented in this document. Airlnsight takes no responsibility for incorrect information supplied to us by manufacturers or users. Quantitative market information is subject to fluctuation. You further acknowledge that this document is for internal use only and not for general publication or disclosure to third parties. No part of this document may be given, lent, resold or disclosed without written permission. Furthermore, no part may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the permission of Airlnsight.

It's all in the data analytics – almost. We had the opportunity to meet with Ted Colbert, the Boeing CIO, during this year's Paris Airshow and came out of that meeting with a much better understanding of the Boeing enterprise analytics goals, particularly from a technical standpoint. Stan Deal reemphasizes many of the points made by Colbert to us back in June: "We'd already been doing that, in our software portfolio; we had some pretty good tools in predictive work, as Ted (Colbert) was coming in as CIO, he said to us that we already have some great analytics capability but that we need to really need to get organized across the company"

"It's the Yin and the Yang of the design process, do you touch this? The airplane (737) runs 99.7%, how much do you load in to get another one tenth of a percent?"

<u>AIR's forecast</u> suggests that the 737 will account for approximately 7,400 of Boeing's 11,200 aircraft deliveries to 2030, a massive 66 percent of its production share. While the services revenue potential of the MAX and NG family is substantial, it's an aircraft that may not have the same, or rather a different growth outlook, than the more network ready 787. Stan Deal is emphatic: "then again, think about the new middle of the market airplane, this will be a culmination of 787 technology in a very rapidly expanding market segment" (Note: we expect deliveries of 900+ 7M7 from 2024 to 2030, and a very aggressive ramp up based on new production and design capabilities).

Consolidation and Innovation: With the recent news of the UTC/Rockwell Collins merger and the Safran takeover of Zodiac Aerospace, we addressed the issue of innovation with Stan Deal, expressing some level of concerns about innovation in a post consolidation phase, Deal was quick to react and dismissed any concerns in that regard "I am not concerned, we are a 10 percent margin commercial company, we innovate, we spend billions on innovation, most of our suppliers are at 15 to 20 percent margin, some more."

"Good companies know that their growth strategies have to include funding for R&D, you can create short term success by not investing and focus on margin expansion, but eventually you lose to the competition... I want our suppliers to have healthy margins."

Cyclicality & the Supply Chain Deal agrees with us that additional consolidation is likely: "we've got that coming" but insist that both "Boeing and Airbus are also going to stimulate the supply chain" and he choses to use the aircraft seat industry as a prime example of that supplier stimulation.

"I think as an industry, both Airbus and Boeing have become much more disciplined; that has helped this steady growth vs us chasing these cycles. It is up to management decision making to say, do I continue to seed some R&D or am I chasing my investors? It takes courage to say I've got to do a good mix of R&D; you have seen us being more deliberate, which should help the industry. A very deliberate product development cycle should help us give our supply chain a future of predictable development.

Are we at risk to see suppliers chose one over the other to maintain what has already been achieved and thus privilege current activities and innovation with that OEM? What guarantees are available to supplier with respect to new programme participation? We put it to Stan Deal that this realignment will take a few more years for the dust to settle in response to this reset of the relationships between the supply chain and aircraft OEMS, "I would not disagree with your conclusions, but I think that at the end of the journey, we are going to end up with a healthy industry and we will have redefined some lines through that process. What we do vs they do, how the service market continues to evolve, there will be some redefinition and that's purposeful".

"From my viewpoint, how do you drive more efficiency into the industry for our customers? How do I make the lifecycle and the front-end acquisition more efficient? If you can come to a customer with that proposition, you are a winner.

Future services growth path: Deal had this to say on the issue: " *it is important to see how we aggregate our two portfolios; Boeing Defence and Boeing Commercial had very similar businesses, let's take these capabilities and aggregate them into capability centers that drive efficiency around what we bring to market; so we have four buckets of capability: Supply Chain, Digital Portfolio, Engineering/Maintenance/Mods and Training/Professional Services" Without getting too specific, Stan Deal sees equal opportunity investment on all four buckets. The digital portfolio has got the highest growth rate potential but a lot of that growth will come organically in coordination with Ted Colbert's team.*

GAFAs. In conclusion, we expanded a bit on the rapidly disrupting & potential role of the GAFAs in the transportation and logistics market:

I will consistently remain paranoid about disruptors from outside our industry, in fact we dedicate a lot of our strategic thinking now to that because it was not in our nature. We have become more focused on who can disrupt us from the outside coming in. It's healthy, it causes us to think a lot more differently about the world, it causes you to say, maybe I need to be the disruptor of my own product

This conversation has confirmed a strong, carefully planned approach to growing the role of Boeing in the services segment. This enterprise wide repositioning, supported by strong & adaptive technology solutions will strengthen the company and set new standards for optimal value & solutions to its customers worldwide.

Thank you to Stan Deal, Conrad Chun and Miles Kotay

The information contained in this document is based on rigorous and independent analysis. Airlnsight cannot be held accountable for any changes in market conditions not presented or anticipated in this document either in writing or discussed, and which may adversely affect the recipient's businesses or investments. Additionally, recipients of this information agree that the author shall not be liable for any consequential damages suffered in relation to the subject area and/or business decisions based on any of the research findings presented in this document. Airlnsight takes no responsibility for incorrect information supplied to us by manufacturers or users. Quantitative market information is subject to fluctuation. You further acknowledge that this document is for internal use only and not for general publication or discloser to third parties. No part of this document may be given, lent, resold or disclosed without written permission. Furthermore, no part may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the permission of Airlnsight.