

EXHIBIT 1



Minister of Foreign Affairs Ministre des Affaires étrangères



Department for
Business, Energy
& Industrial Strategy

DEC 18 2017

Mr. Dennis A. Muilenburg
Chairman of the Board and
President and Chief Executive Officer
The Boeing Company
100 North Riverside
Chicago IL 60606
UNITED STATES OF AMERICA

Dear Mr. Muilenburg:

We are writing to you with regard to the ongoing subsidy and dumping investigations into imports of Bombardier C-series aircraft into the United States brought about by Boeing.

We were both extremely disappointed that this case was instigated by Boeing and are keen to get the matter resolved without the need for further legal proceedings. Despite some publicity to the contrary, Boeing does not produce an aircraft that competes with the CS100. The dominance of the Boeing 737 family of aircraft in the U.S. market, Boeing's strong financials and impressive backlog of orders make it even more difficult to understand how Boeing could allegedly be threatened with injury by the C-series.

Further, you will only be too familiar with pricing strategies for new aircraft, and realize that the C-series order with Delta was in accordance with common practice in the industry and follows an approach Boeing itself takes. Both our governments have been clear from the outset that Boeing's position is not what we would expect of a long-term, trusted partner.

Both nations have built a strong partnership with Boeing over many years. The potential impact on jobs in Canada and the United Kingdom makes it difficult to sustain support for the procurement approaches that we have followed in the past, which have been of significant benefit to Boeing.

On December 12, 2017, the Government of Canada launched an open and transparent competition for the permanent replacement of Canada's fighter fleet. Given that the government feels it is important to do business with trusted partners, the evaluation of proposals will also include an assessment of bidders' impact on Canadian economic interests.

.../2

Similarly, the United Kingdom is now likely to explore a wider range of procurement alternatives in the future than would have otherwise been the case, in line with requirements on all U.K. procurers to consider social and economic objectives.

We hope you will agree that it is in our collective interests for this issue to be resolved as soon as possible and would welcome an opportunity to see how we could settle this case in a reasonable way for all concerned.

Sincerely,

A handwritten signature in blue ink, appearing to be 'C Freeland'.

The Hon. Chrystia Freeland, P.C., M.P.
Minister of Foreign Affairs

A handwritten signature in black ink, appearing to be 'Greg Clark'.

The Rt. Hon. Greg Clark, M.P.
Secretary of State for Business,
Energy and Industrial Strategy

EXHIBIT 2

Skift.

Transport, Airlines

United Airlines Is on the Offensive Under New President Scott Kirby

David Koenig, Associated Press - Feb 27, 2017 11:00 am



Skift Take

Scott Kirby has worked in top jobs for a long time, at US Airways, American, and now at United. He has a playbook, and it includes adding domestic flights to strengthen hubs and improve connectivity for passengers. It has worked elsewhere, and should work at United.

— *Brian Sumers*

United Airlines, which lost the distinction of being the world's biggest carrier after shrinking for several years, plans to regain lost ground by adding more flights from key airports this summer.

The airline wants to upgrade facilities at key airports and trim the use of smaller planes on important business routes.

If the expansion plans pan out, United could staunch slipping revenue numbers, which fell nearly 2 percent in the last five years, while revenue at industry leader Delta Air Lines Inc. rose 8 percent.

United has slipped in other ways, too. Only once in the last five years did United Continental Holdings Inc. top Delta's operating income. And it consistently ranks worse in on-time flights and cancellations.

Delta and American Airlines Group Inc. have been adding flights, often on bigger

planes, between major cities. Not United.

“We’ve been shrinking, and our competitors have been growing at our expense,” says Scott Kirby, who jumped from president of American Airlines to the same job at United in August. “We’re going back on offense.”

Many analysts are upbeat about United’s prospects, but say the path won’t be easy for the Chicago airline.

“Delta is not standing still either, so it’s not only getting back to where they used to be, but it’s leapfrogging Delta,” said Helane Becker, an analyst with Cowen and Co.

Reducing the number of delays and cancellations is crucial, Becker said.

After a 2010 merger with Continental Airlines, United alienated important customers with cost-cutting initiatives that backfired.

A decade ago, for instance, United flew eight daily flights on Boeing 737s between Atlanta and Newark, a big business route where it competes with Delta. By 2013, United flew six times a day on small regional jets or turboprops.

Business travelers detest the small planes because they are more likely to be delayed or canceled, and their lack of enough overhead bins can mean carry-on bags get gate-checked — adding a time-consuming trip to baggage claim.

“Our best customers started abandoning us and flying on the competition, who had a better product,” Kirby said. “We have to turn that around.”

Kirby thinks that new routes from hubs will win over, or win back, passengers. If traffic picks up, and as United takes delivery of new planes, it should eventually be able to phase out small planes on key business-travel routes, he said.

On Monday, United announced that this summer it will add four new destinations in smaller cities including Rochester, Minnesota, and Santa Rosa, California, add new connections to other medium-sized towns, and add daily flights on 15 other routes that connect with the big hubs. It will add seasonal flights between San Francisco and Munich.

United also wants to expand and upgrade facilities at key airports, including more gates at Chicago’s O’Hare. The airline just opened a new club at Los Angeles International Airport, and Kirby told union pilots that United wants part or all of a future terminal there, where Delta and American have been making improvements.

Becker, of Cowen and Co., said United underinvested at its airports after two

downturns in the airline business and a trip to bankruptcy court. Now, however, it is solidly profitable, with \$8 billion in pretax income for 2015-16. (Delta's pretax earnings in those two years were \$13.8 billion.)

United is starting to fly planes with fancy new seats in business-class on a few international routes. There have been fewer upgrades in the main cabin, however, and even a move that some travelers consider a step backward – the debut of “basic economy” tickets that are priced below regular economy but come with severe restrictions, including no use of the overhead bins.

Delta just announced it will bring back free meals on transcontinental flights. United has been mum on whether it will do the same. Asked if his airline was studying free meals, Kirby said, “I wouldn't even say that.”

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Tags: Scott Kirby, united airlines

Photo Credit: United is bulking up its domestic operations under new President Scott Kirby. Mel Evans / Associated Press

EXHIBIT 3

Company Name: Bombardier

Company Ticker: BBD/B CN

Date: 2017-12-14

Event Description: Investor and Analyst Day

Market Cap: 6,900.13

Current PX: 3.07

YTD Change(\$): +.90

YTD Change(%): +41.475

Bloomberg Estimates - EPS

Current Quarter: 0.005

Current Year: -0.013

Bloomberg Estimates - Sales

Current Quarter: 4774.933

Current Year: 16304.842

Investor and Analyst Day

Company Participants

- Patrick Ghoche
- Alain M. Bellemare
- John Di Bert
- Laurent Troger
- David M. Coleal
- Frederick Cromer
- Michael James Ryan
- Jim Vounassis

Other Participants

- Justine Fisher
- Robert M. Spingarn
- Kristine Tan Liwag
- Konark Gupta
- Walter Spracklin
- Chris Murray
- Stephen Trent
- Benoit Poirier

MANAGEMENT DISCUSSION SECTION

Patrick Ghoche

All right. Well, everybody setting up. Okay, welcome everyone to our 2017 Bombardier Investor Day. It's great to have you here, both people in the room and I know many people following online on the webcast. So, pleasure to be here again to update you on our five year plan – on the progress on our five-year plan. We'll have in terms of logistics, probably the first part, let's say the first hour, a brief presentation by our CEO, Alain Bellemare followed by John Di Bert, who will walk you through some of the financials, I'm sure you all want to hear about.

Following that, we'll have all the business unit presidents talk about their business, the progress, the accomplishments, and where they're going. And finally, Jim is going to come and talk to you about strong progress on transformation and a bit of what's to come.

So – and to be efficient, we'll keep the Q&A for the end of the presentation. And we'll take questions both from the room and online. So, online, you can follow instructions at that point.

So, before we begin, I want to draw your attention to the usual disclaimers on page 2 and page 3 of the presentation. I wish to remind you that during the course of this presentation, we may make projections or other forward-looking statements regarding future events or future financial performance of the corporation.

Several assumptions were made in preparing these statements and we wish to emphasize that there are risks that actual events results may differ materially from these statements, and I am making this cautionary statement on behalf of each speaker whose remarks today will contain forward-looking statements.

Company Name: Bombardier

Company Ticker: BBD/B CN

Date: 2017-12-14

Event Description: Investor and Analyst Day

Market Cap: 6,900.13

Current PX: 3.07

YTD Change(\$): +.90

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Bloomberg Estimates - EPS

Current Quarter: 0.005

Current Year: -0.013

Bloomberg Estimates - Sales

Current Quarter: 4774.933

Current Year: 16304.842

<A - John Di Bert>: Sure. So, I won't specifically talk about the Global 7000 profitability because that's obviously sensitive and competitive, but it's a premium aircraft and I expect that in the medium to longer term, that's going to be a premium margin product. It offers tremendous value and capability to customers and as a result, I think it'll compete very well with, frankly in its own segment.

When you look at our 2020 objectives, 8% to 10%, you're really just seeing the very beginning of the volume. And for all intents and purposes, I think you'll see dilution in 2019 relative to our program as it hits its first set of real significant deliveries and in 2020 it starts from mature. When you look at 2021, 2022, 2023, there is a convergence of things that are happening.

One, you've got aftermarket and you know the power of the work that David is doing in terms of generating those higher margin businesses and in capturing more of our fleet. Two, you have the continued learn out of the Global 7000, and its ability to generate those large business jet margins that I think we can still improve past 2021 and 2022. And then three, we continue as Jim showed you, we'll drive a lean operation that allows frankly at that point in time the skill of a top line to leverage the cost structure that supports that business.

And so without getting overly specific, is there possibly to have solid double-digit margins and grow from there, I think absolutely there is. And frankly that's really what we're driving to.

<A - Patrick Ghoche>: Next question here.

<Q - Walter Spracklin>: Yeah. It's Walter Spracklin from RBC Capital Markets. I guess this is for Alain. I know when went back, going back to 2015, when you provided your guidance, it was really about and we looked at the investment thesis on Bombardier, it was really about de-risking the company, and much of the upside that we would see would come from your successful execution your plan out to 2020.

I think going forward now, as we come closer to 2020, it'll – and you'll probably be happy about this moving on to the next stage or post 2020 will be more of an earnings story. I want to focus on my question on the Commercial Aerospace division. If I look at the C Series, and I think about the capital investment that you made in that program, one of the things is the early versions that come out of that type of capital investment might be lower margin, but you have some versions that come afterwards that tend to have a bit better economics.

By going with Airbus and given their kind of A320 family, do you sacrifice that platform scalability of the C Series? Will we ever see a CS500 now that it's kind of in those hands and are we really going to be looking at a CS100, CS300 as your real models in that division post 2020?

<A - Alain M. Bellemare>: I think it's tough to forecast or to predict what Airbus and us will do in the out years. There's a great, strategic fit right now between the C Series, the CS100, CS300 and the A320, A321. So, is there like no room or can there be a product strategic fit for like a bigger C Series, I think that time will tell. On a standalone basis, it would have been a real challenge to launch a CS500. So, I mean we're in terms of value creation, it's clear that we're trading a lot more value in adding the CS100 and CS300 as part of the A320 family for the reason that Fred mentioned, not only it would de-risk the program, but we're taking advantage of Airbus scale on sales marketing, scale Airbus scale, scale on sales and marketing, scale and procurement, purchasing power and scale in the aftermarket. So, for me, what we've done here is, we are basically making sure that this program is actually going to generate real value for us for Bombardier, for Airbus and for customers.

<Q - Walter Spracklin>: And then I guess the second part of my question then goes back to the [ph] RJ (01:58:25) issue and I think 35 aircraft per year. If we were going to not see much movement beyond that level of deliveries, is it really a viable business for you, and what could be your strategy if we are kind of stuck in that 35 – 35 to 50 aircraft per year?

<A - Alain M. Bellemare>: Well, I think that Fred can take this one on. I would just say, right now, the focus is on selling more CRJ, we'd like to keep this line going, but Fred?

<A - Frederick Cromer>: Yeah. I talked about it earlier. I think the replacement cycle is real and I think it's coming, and we're well positioned. I think in terms of cycle times and staying nimble, the CRJ production line in particular is

EXHIBIT 4

November 6, 2017

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wilmerhale.com

Case Nos. A-122-859, C-122-860

Total Number of Pages: 119

Investigations

(AD POI: 04/01/16-03/31/17)

(CVD POI: 01/01/16-12/31/16)

E&C AD/CVD Offices II, IV

**Business Proprietary Document – May Be
Released Under APO**

Boeing's Proprietary Information Has Been
Deleted on Page 2 and Exhibit 1

PUBLIC VERSION

VIA ACCESS

The Honorable Wilbur L. Ross, Jr.
Secretary of Commerce
Attention: Enforcement and Compliance
APO/Dockets Unit, Room 18022
U.S. Department of Commerce
14th Street and Constitution Avenue, NW.
Washington, DC 20230

**Re: *100- To 150-Seat Large Civil Aircraft from Canada: Rebuttal Factual*
 Information on the Announced Airbus-Bombardier C Series Partnership**

Dear Secretary Ross:

On behalf of Petitioner The Boeing Company ("Boeing"), we hereby provide factual
information to rebut, clarify, or correct information about the announced "C Series partnership"

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Business Proprietary Information
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WILMERHALE

The Honorable Wilbur L. Ross, Jr.
November 6, 2017
Page 2

between Airbus SE (“Airbus”) and Bombardier Inc. (“Bombardier”).¹ This information falls under 19 C.F.R. § 351.102(b)(21)(iv) because it is submitted in response to information placed on the records of the investigations by the Department of Commerce.²

Attached are the following documents:

- A statement by [REDACTED], assessing the announced Airbus-Bombardier C Series partnership.³ (Exhibit 1)
- An excerpt from a Bombardier investor presentation entitled, “Partnering to Realize the C Series’ Full Potential” (October 16, 2017), which clarifies that the announced Airbus-Bombardier C Series partnership is intended to evade U.S. antidumping and countervailing duties. (Exhibit 2)
- An excerpt from the International Trade Commission’s preliminary determination in the investigations of *100- to 150-Seat Large Civil Aircraft from Canada* (USITC Pub. 4702, June 2017), which clarifies that there is no commercial rationale for the announced Airbus-Bombardier C Series partnership. (Exhibit 3)
- An excerpt from Airbus’ website entitled, “Airbus Final Assembly and Tests,” which provides information on Airbus’ existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve.⁴ (Exhibit 4)
- An excerpt from Airbus’ website entitled, “Frequently Asked Questions (FAQ),” which provides information on Airbus’ existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 5)
- A Bombardier press release entitled, “Bombardier’s Saint-Laurent Facility Tools Up for CSeries Aircraft Component Production (March 7, 2011), which provides

¹ See Department Memorandum, “Antidumping and Countervailing Duty Investigations of 100- to 150-Seat Large Civil Aircraft from Canada: Opportunity to Comment on Proposed Transaction” (Nov. 1, 2017) at Attachment I.

² Department Memorandum, “Antidumping and Countervailing Duty Investigations of 100- to 150-Seat Large Civil Aircraft from Canada: Opportunity to Comment on Proposed Transaction” (Nov. 1, 2017).

³ Boeing requests business proprietary treatment of the bracketed information in this sentence, pursuant to 19 C.F.R. §§ 351.304(b)(1)(i) and 351.105(c)(9) and (c)(11). The bracketed information identifies a particular Boeing employee who provided both public and business proprietary information that appears in Exhibit 1. Releasing this information to the public would cause substantial harm to Boeing’s competitive position.

⁴ This document incorrectly states that Airbus’ U.S. facility “produces A319s,” when in fact the A319s has only been produced in Europe to date. See, e.g., Airbus Press Release, “Airbus begins production of first U.S.-built A320 in Mobile” (May 8, 2017) (Exhibit 24) (“All aircraft delivered from Mobile thus far have been A321 aircraft”).

The Honorable Wilbur L. Ross, Jr.

November 6, 2017

Page 3

information on Bombardier's existing C Series production, to clarify what a theoretical C Series facility in Mobile might or might not involve. (Exhibit 6)

- An Airbus press release entitled, "Airbus Launches Ship Carrying First Components for A320 Family Production in the U.S." (May 29, 2015), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 7)
- An Airbus press release entitled, "Elements for the 50th made-in-America A320 Family jetliner are shipped from Germany" (August 30, 2017), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 8)
- An Airbus press release entitled, "Airbus U.S. Manufacturing Facility Receives 50th Shipset" (September 15, 2017), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 9)
- An article from the *Hamilton Spectator* entitled, "Safe Investment; Goodrich's Oakville plant to test landing gear for new Airbus A380" (April 6, 2005), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 10)
- An article from *Flight Global* entitled, "Bombardier's Mirabel plant to undergo big expansion for CSeries" (February 16, 2011), which clarifies that there is no commercial rationale for the announced Airbus-Bombardier C Series partnership, and which clarifies what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 11)
- An article from the *Wall Street Journal* entitled, "Airbus's New Push: Made in the U.S.A." (July 2, 2012), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 12)
- An article from *The Seattle Times* entitled, "Boeing retools Renton plant with automation for 737's big ramp-up" (May 21, 2015), which provides information on Boeing's existing production, to clarify what a theoretical C Series facility in Mobile might or might not involve. (Exhibit 13)
- An article from *Euclid Infotech: Procurement News* entitled, "Germany: DHL transports first aircraft components for Airbus from Hamburg to its newly built US assembly plant" (June 4, 2015), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 14)
- An article from *Airways Magazine* entitled, "Inside Bombardier CSeries' Final Assembly Line" (July 8, 2016), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 15)

The Honorable Wilbur L. Ross, Jr.

November 6, 2017

Page 4

- An article from the *New York Times Magazine* entitled, "A Look Inside Airbus's Epic Assembly Line" (May 3, 2017), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 16)
- An article from *The Times* (London) entitled, "Airbus has a warning for post-Brexit Britain as it expands its plant in Alabama" (May 29, 2017), which provides information on Airbus' existing production to clarify what a theoretical C Series facility in Mobile, Alabama might or might not involve. (Exhibit 17)
- An article from the *Financial Post* entitled, "Feds promise to guard Canadian jobs before approving Bombardier-Airbus deal" (October 17, 2017), which clarifies that the Canadian government will seek to protect C Series production jobs in Canada. (Exhibit 18)
- An excerpt from an Airbus investor presentation entitled, "Airbus & Bombardier: C Series; A Winning Partnership" (October 17, 2017) indicating that "there can be no assurance that {the} transaction will eventually be implemented, or as to the timing or terms that might be agreed," and indicating some of the financial terms of the transaction. (Exhibit 19)
- An article from the *Wall Street Journal* entitled, "Delta Expects to Buy U.S.-Built C Series Jets: Airline plans to take Bombardier planes from Alabama plant, avoiding tariffs" (October 18, 2017), which clarifies that the announced Airbus-Bombardier C Series partnership is intended to evade U.S. antidumping and countervailing duties. (Exhibit 20)
- An article from *Leeham News* entitled, "From war to partner: Airbus and the C Series" (October 18, 2017), which clarifies that the announced Airbus-Bombardier C Series partnership is intended to evade U.S. antidumping and countervailing duties. (Exhibit 21)
- An article from *Bloomberg* entitled, "Airbus Pledges to Put C Series Ahead of A319 in Sales Push" (October 18, 2017), which clarifies that the timing and details of the announced Airbus-Bombardier C Series partnership and production plans in Alabama are uncertain and undetermined, and will remain so indefinitely. (Exhibit 22)
- A transcribed excerpt from a Bombardier investor call, indicating that the announced Airbus-Bombardier partnership is intended to evade U.S. antidumping and countervailing duties. (Exhibit 23)

The Honorable Wilbur L. Ross, Jr.
November 6, 2017
Page 5

* * * * *

This submission is being served in accordance with the attached certificate of service.

Please contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert T. Novick", with a stylized flourish at the end.

Robert T. Novick
Patrick J. McLain
Stephanie E. Hartmann
William Desmond

Counsel to The Boeing Company

COMPANY CERTIFICATION

I, **Padraic Fennelly, Chief Counsel**, currently employed by **The Boeing Company**, certify that I prepared or otherwise supervised the preparation of the attached submission of **Rebuttal Factual Information on the Announced Airbus-Bombardier C Series Partnership, filed on November 6, 2017**, pursuant to the antidumping and countervailing duty investigations of **100- to 150-Seat Large Civil Aircraft from Canada (Case Nos. A-122-859 and C-122-860)**. I certify that the public information and any business proprietary information of The Boeing Company contained in this submission is accurate and complete to the best of my knowledge. I am aware that the information contained in this submission may be subject to verification or corroboration (as appropriate) by the U.S. Department of Commerce. I am also aware that U.S. law (including, but not limited to, 18 U.S.C. 1001) imposes criminal sanctions on individuals who knowingly and willfully make material false statements to the U.S. Government. In addition, I am aware that, even if this submission may be withdrawn from the record of the AD/CVD proceeding, the U.S. Department of Commerce may preserve this submission, including a business proprietary submission, for purposes of determining the accuracy of this certification. I certify that a copy of this signed certification will be filed with this submission to the U.S. Department of Commerce.

Signature:



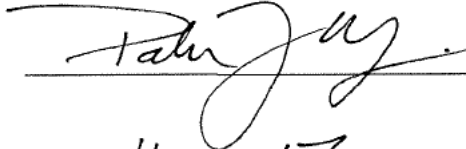
Date:

11 / 6 / 17

REPRESENTATIVE CERTIFICATION

I, Patrick J. McLain, with Wilmer Cutler Pickering Hale and Dorr LLP, counsel to The Boeing Company, certify that I have read the attached submission of Rebuttal Factual Information on the Announced Airbus-Bombardier C Series Partnership, filed on November 6, 2017, pursuant to the antidumping and countervailing duty investigations of 100- to 150-Seat Large Civil Aircraft from Canada (Case Nos. A-122-859 and C-122-860). In my capacity as counsel and preparer of this submission, I certify that the information contained in this submission is accurate and complete to the best of my knowledge. I am aware that U.S. law (including, but not limited to, 18 U.S.C. 1001) imposes criminal sanctions on individuals who knowingly and willfully make material false statements to the U.S. Government. In addition, I am aware that, even if this submission may be withdrawn from the record of the AD/CVD proceeding, the U.S. Department of Commerce may preserve this submission, including a business proprietary submission, for purposes of determining the accuracy of this certification. I certify that a copy of this signed certification will be filed with this submission to the U.S. Department of Commerce.

Signature: _____



Date: _____

11-6-17

PUBLIC CERTIFICATE OF SERVICE

A-122-859

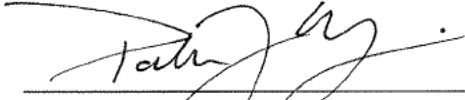
**100- To 150-Seat Large Civil Aircraft from Canada
Investigation**

I, Patrick J. McLain of Wilmer Cutler Pickering Hale and Dorr LLP, hereby certify that a copy of this submission was served via first class mail this 6th day of November 2017:

Yohai Baisburd, Esq.
Dentons US LLP
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Washington, DC 20006-1102

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Curtis, Mallet-Prevost, Colt & Mosle LLP
1717 Pennsylvania Avenue, NW
Washington, DC 20006

William R. Isasi, Esq.
Covington & Burling LLP
One CityCenter
850 Tenth Street, NW
Washington, DC 20001-4956



Patrick J. McLain

PUBLIC CERTIFICATE OF SERVICE

C-122-860

**100- To 150-Seat Large Civil Aircraft from Canada
Investigation**

I, Patrick J. McLain Wilmer Cutler Pickering Hale and Dorr LLP, hereby certify that a copy of this submission was served via first class mail this 6th day of November 2017:

Gerasimos Antypas
Second Secretary (Trade Policy)
Embassy of Canada
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Patrick J. McLain

EXHIBIT 1

**Public Version
Business Proprietary Information
Has Been Deleted**

AFFIDAVIT OF []

The undersigned, [], being duly sworn, states of his own personal knowledge that:

1. I am over 18 years of age and competent to make this affidavit.
2. I am currently [] for Boeing Commercial Airplanes ("BCA"), the business unit of The Boeing Company that develops and produces 100- to 150-seat large civil aircraft (the "Aircraft") and other large civil aircraft. I have served in this position since [], and I have worked at BCA since [].
3. In my role as []

[].
4. I have been asked to address the recently reported plans for Bombardier and Airbus to create a C Series facility in Alabama, including the economics, risks, and viability of such a facility.
5. The C Series program does not need any additional production facilities or a second final assembly line. Other than as an attempt to avoid U.S. trade remedy duties, a C Series production facility in Mobile, Alabama is unnecessary and brings no added value to the program. It splits the production ramp up between two facilities, which increases overhead and startup costs of the program. It makes no economic sense to establish new facilities for the C Series in Alabama.
6. The C Series program has obtained only 360 firm orders (including approximately 100 that are at risk of delay or cancellation) since the program launched in 2008. Bombardier's current C Series production line in Mirabel has the capacity to achieve a production rate of 10 aircraft per month, and Bombardier is implementing plans to ramp up to this rate by 2020. Existing C Series orders are insufficient to sustain production in Mirabel at this rate for any appreciable period of time, much less a second line in Alabama.
7. Bombardier has strong incentives to find new customers for the C Series program's excess capacity. Indeed, this is the C Series program's main challenge—and it explains why Bombardier is behaving so aggressively in the marketplace.

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Establishing additional C Series facilities in Alabama does nothing to address this challenge. A C Series facility in Alabama would also take years to complete and incur additional costs, including for facilities and logistics. It would be fraught with risk.

8. Airbus and Bombardier have stated that they expect their joint venture to boost C Series sales. The economically rational thing to do with additional C Series orders would be to feed them into the existing production facilities in Mirabel, which lacks sufficient orders to sustain planned production rates—not to add another facility in Alabama.

I declare under penalty of perjury that the foregoing is true and correct to my personal knowledge.

[_____]
[_____]

Dated: 11/6/17

SUBSCRIBED AND SWORN to me this 6 day of November, 2017.



NOTARY PUBLIC

My Commission expires: Sep 5, 2021.

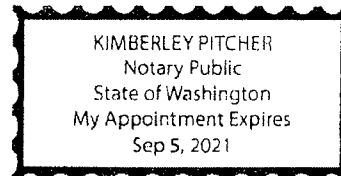


EXHIBIT 2

PARTNERING TO REALIZE THE C SERIES' FULL POTENTIAL

BRINGING TOGETHER BOMBARDIER'S INNOVATIVE
AIRCRAFT AND AIRBUS' GLOBAL REACH AND SCALE

ALAIN BELLEMARE
PRESIDENT & CEO

JOHN DI BERT
SENIOR VICE PRESIDENT & CFO

October 16, 2017



BOMBARDIER

INVESTOR
PRESENTATION

CAUTION REGARDING FORWARD-LOOKING STATEMENTS

BOMBARDIER

This presentation includes forward-looking statements, which may involve, but are not limited to: statements with respect to Bombardier's objectives, guidance, targets, goals, priorities, market and strategies, financial position, beliefs, prospects, plans, expectations, anticipations, estimates and intentions; general economic and business outlook, prospects and trends of an industry; expected growth in demand for products and services; product development, including projected design, characteristics, capacity or performance; expected or scheduled entry-into-service of products and services, orders, deliveries, testing, lead times, certifications and project execution in general; competitive position; the completion, anticipated timing and use of the transactions described in this presentation; the impact and expected benefits of the transaction on operations, infrastructure, opportunities, financial condition, access to capital and overall strategy; and the receipt of regulatory and other approvals required with respect to this transaction and the anticipated timing thereof.

Forward-looking statements can generally be identified by the use of forward-looking terminology such as "may", "will", "shall", "can", "expect", "estimate", "intend", "anticipate", "plan", "foresee", "believe", "continue", "maintain" or "align", the negative of these terms, variations of them or similar terminology, as they relate to Bombardier and CSALP. Forward-looking statements are presented for the purpose of assisting investors and others in understanding certain key elements of Bombardier's current objectives, strategic priorities, expectations and plans, and in obtaining a better understanding of Bombardier's and business and anticipated operating environment. Readers are cautioned that such information may not be appropriate for other purposes.

By their nature, forward-looking statements require Bombardier's management to make assumptions and are subject to important known and unknown risks and uncertainties, which may cause Bombardier's and CSALP's actual results in future periods to differ materially from forecast results set forth in forward-looking statements. While Bombardier's and management consider these assumptions to be reasonable and appropriate based on information currently available, there is risk that they may not be accurate.

With respect to the transactions discussed herein specifically, certain factors that could cause actual results to differ materially from those anticipated in the forward-looking statements with respect to Bombardier include, but are not limited to, risks associated with the failure to receive or delay in receiving regulatory (including antitrust) or other approvals or otherwise satisfy the conditions to the completion of the transaction or delay in completing the transaction and uncertainty regarding the length of time required to complete the transaction; changes in the terms of the transaction; the failure by either party to satisfy its obligations pursuant to the transaction agreement; the impact of the announcement of the transaction on Bombardier's relationships with third parties, including commercial counterparties, employees and competitors, strategic relationships, operating results and businesses generally; the failure to realize, in the timeframe anticipated or at all, the anticipated benefits and synergies of the transaction. Certain other factors that could cause actual results to differ materially from those anticipated in the forward-looking statements with respect to Bombardier include, but are not limited to, risks associated with general economic conditions, risks associated with our business environment (such as risks associated with "Brexit", the financial condition of the airline industry, business aircraft customers, trade policy; increased competition; political instability and force majeure events or natural disasters), operational risks (such as risks related to developing new products and services; development of new business; the certification and homologation of products and services; fixed-price and fixed-term commitments and production and project execution; pressures on cash flows and capital expenditures based on project-cycle fluctuations and seasonality; our ability to successfully implement and execute our strategy and transformation plan; doing business with partners; product performance warranty and casualty claim losses; regulatory and legal proceedings; environmental, health and safety risks; dependence on certain customers and suppliers; human resources; reliance on information systems; reliance on and protection of intellectual property rights; and adequacy of insurance coverage), financing risks (such as risks related to liquidity and access to capital markets; retirement benefit plan risk; exposure to credit risk; substantial existing debt and interest payment requirements; certain restrictive debt covenants and minimum cash levels; financing support provided for the benefit of certain customers; and reliance on government support), market risks (such as risks related to foreign currency fluctuations; changing interest rates; decreases in residual values; increases in commodity prices; and inflation rate fluctuations). For more details, see the Risks and uncertainties section in Other in the Management's Discussion and Analysis (MD&A) of Bombardier's financial report for the fiscal year ended December 31, 2016.

The assumptions underlying the forward-looking statements made in this presentation in relation to the transaction include the following material assumptions: the satisfaction of all conditions of closing and the successful completion of the transaction within the anticipated timeframe, including receipt of regulatory (including antitrust) and other approvals and the accuracy of Bombardier's assessment of anticipated growth drivers and sector trends. For additional information relating to Bombardier with respect to the assumptions underlying the forward-looking statements made in this presentation, refer to the Strategic Priorities and Guidance and forward-looking statements sections in the MD&A of Bombardier's financial report for the fiscal year ended December 31, 2016.

Readers are cautioned that the foregoing list of factors that may affect future growth, results and performance is not exhaustive and undue reliance should not be placed on forward-looking statements. Other risks and uncertainties not presently known to Bombardier or that Bombardier presently believe are not material could also cause actual results or events to differ materially from those expressed in its forward-looking statements. Accordingly, there can be no assurance that the proposed transaction will occur or that the anticipated strategic benefits and operational, competitive and cost synergies will be realized in their entirety, in part or at all. The forward-looking statements set forth herein reflect Bombardier's management's expectations as at the date of this presentation and are subject to change after such date. Unless otherwise required by applicable securities laws, Bombardier expressly disclaims any intention, and assume no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. The forward-looking statements contained in this presentation are expressly qualified by this cautionary statement

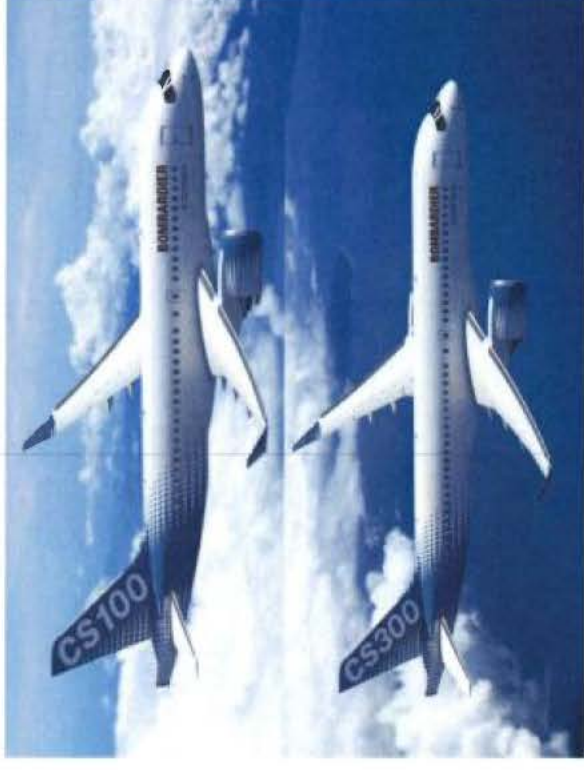
A WINNING PARTNERSHIP

BOMBARDIER

A320 Family



C Series



AIRBUS AND BOMBARDIER ENTER INTO A PARTNERSHIP ON C SERIES

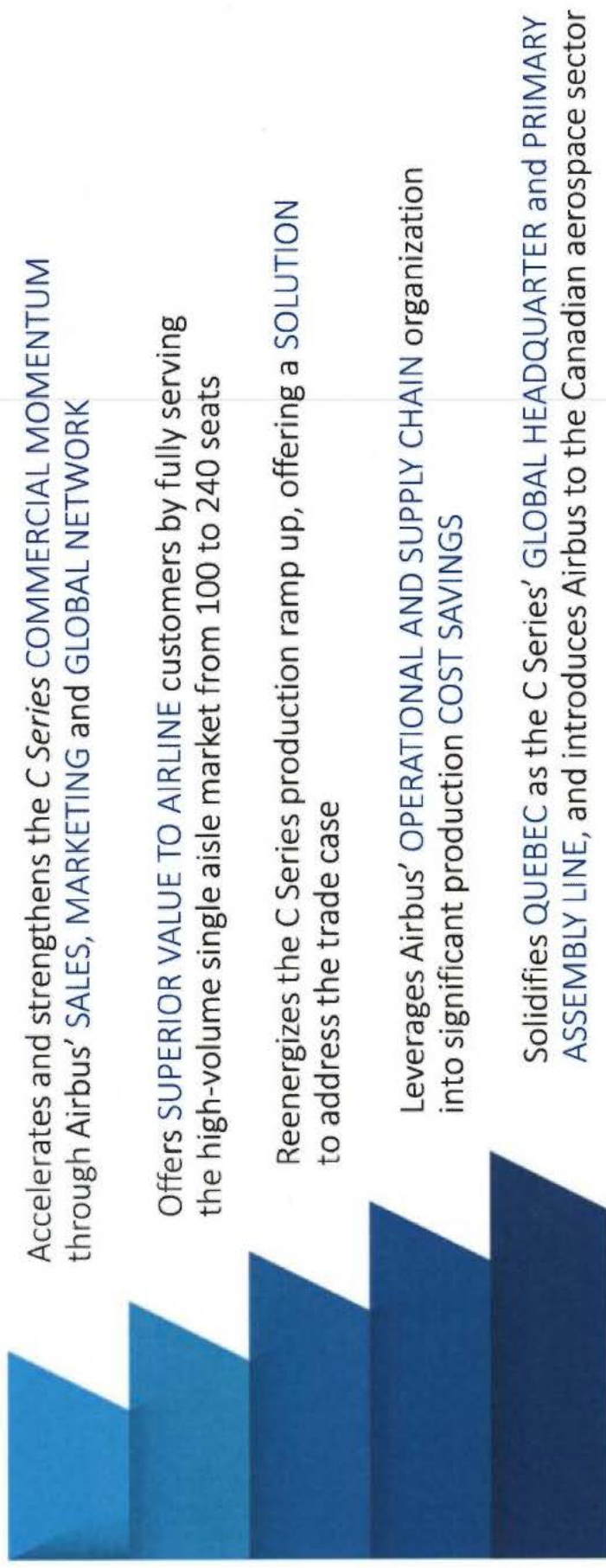
COMBINATION OF AIRBUS' GLOBAL REACH AND SCALE WITH BOMBARDIER'S INNOVATIVE NEW AIRCRAFT

SIGNIFICANT LONG TERM VALUE CREATION FROM COMMERCIAL MOMENTUM AND COST SAVINGS

Note: Refer to the disclosure on Forward Looking Statement at the beginning of this presentation

PARTNERSHIP HOLDS THE RIGHT INGREDIENTS TO MORE THAN DOUBLE THE C SERIES PROGRAM VALUE

BOMBARDIER



Note: Refer to the disclosure on Forward Looking Statement at the beginning of this presentation

EXHIBIT 3

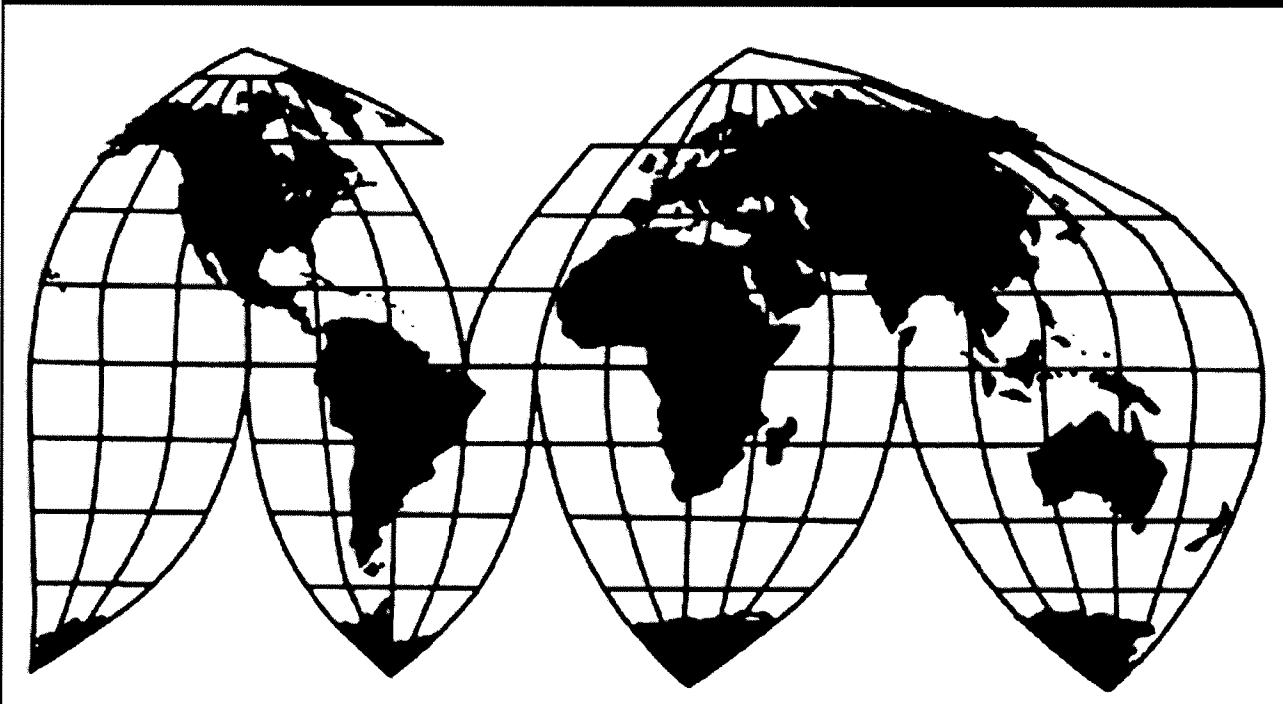
100- to 150-Seat Large Civil Aircraft from Canada

Investigation Nos. 701-TA-578 and 731-TA-1368 (Preliminary)

Publication 4702

June 2017

U.S. International Trade Commission



Washington, DC 20436

effect.”¹⁸⁹ Respondents dispute the existence of a “lighthouse effect” and “price transmission” in the 100- to 150-seat LCA market, claiming that prices in the market are actually opaque.¹⁹⁰ Contrary to respondents’ position, however, Boeing was able to estimate *** Delta’s price per aircraft on its purchase of CS100s from Bombardier using public information, as were other market participants.¹⁹¹ Additionally, after Boeing reduced prices to secure an order for 737-700s from United, ***.¹⁹² We will further examine the nature of price transmission in the market in any final phase investigations.

There is also evidence that large initial customers for new 100- to 150-seat LCA designs receive a discount known as “launch pricing.” According to Delta, LCA producers normally offer a marquee customer “launch pricing,” representing a 20 to 30 percent discount, to compensate the customer for the risks associated with the acquisition of a new LCA design.¹⁹³ Respondents claim that LCA producers will offer such “launch pricing” on a new LCA design as long as the design’s delivery and dependability remain in doubt.¹⁹⁴ While acknowledging that launch pricing exists, Boeing observes that the Delta sale occurred long after the C Series launch in 2008, and that ***.¹⁹⁵

C. Likely Volume of the Subject Imports

We find that the volume and market share of subject imports will likely increase to significant levels in the imminent future. There were no subject imports during the period of investigation.¹⁹⁶ In April 2016, however, Delta placed a firm order with Bombardier for 75 CS100s (with an option to substitute CS300s after the first 35 deliveries) and an option for 50 CS100s (with an option to substitute CS300s).¹⁹⁷ Based on the deliveries that Bombardier is required to make pursuant to this order, Delta is scheduled to import *** CS100s in 2018 and *** CS100s in 2019, giving Bombardier a projected share of apparent U.S. consumption of ***

¹⁸⁹ CR at V-8; PR at V-4.

¹⁹⁰ CR at V-9; PR at V-4; *See* Bombardier’s Postconference Brief at 29-30; Delta’s Postconference Brief at 28-29.

¹⁹¹ *See* Petition at Exhibits 23 (Reuters article stating that rival jetmakers and analysts quickly calculated Delta had paid \$22-23 million per plane), 101 (***), para. 16 (estimating Delta’s price per plane at \$19.6 million, and \$23.3 million including ancillary items); CR/PR at Table VII-5 (***).

¹⁹² Petition at Exhibit 101 (***), para. 10.

¹⁹³ CR at V-2; PR at V-1-2; Delta’s Postconference Brief at 30.

¹⁹⁴ CR at V-3; PR at V-2; Bombardier’s Postconference Brief at 29.

¹⁹⁵ Petitioner’s Postconference Brief at 41; CR/PR at Table V-2.

¹⁹⁶ CR/PR at Table IV-11. We are unpersuaded by Bombardier’s argument that there was no significant rate of increase in subject import volume or market penetration during the period of investigation indicating the likelihood of increased imports. Bombardier’s Postconference Brief at 44. The third statutory threat factor does not limit our analysis to an extrapolation of trends over the period of investigation when the record contains other pertinent information concerning the likelihood of increased subject imports. *See* 19 U.S.C. §§ 1677(7)(F)(i)(III), (IX).

¹⁹⁷ CR at VII-6 n.5, 9; PR at VII-4 n.5, 9; CR/PR at Table VII-5; Delta’s Postconference Brief at 27-28.

percent in 2018 and *** percent in 2019.¹⁹⁸ Even if Bombardier encounters difficulties in fully satisfying these contractual obligations due to continuing start-up problems, we find it likely that subject import volume and market share will increase to significant levels in the imminent future, particularly given that ***.¹⁹⁹

We also find it likely that Bombardier will secure additional orders for subject imports in the imminent future. Bombardier has the ability to accept large orders for subject imports in the imminent future, given future projected excess capacity. Based on its current order book, Bombardier is far short of achieving the “production ramp up” targets reflected in its projected capacity for the 2017-21 period.²⁰⁰ Bombardier has projected unfilled capacity of *** units in 2017, *** units in 2018, *** units in 2019, *** units in 2020, and *** units in 2021.²⁰¹

Because its future production is already falling short of projected capacity in the imminent future, Bombardier has the incentive to aggressively seek additional orders in the U.S. market in the imminent future. When asked at the conference if it is “important that Bombardier adhere to this {production ramp up} schedule to make this program a financial success,” a Bombardier official responded “it is very important” and “we are forced to achieve that rate.”²⁰² Consistent with this testimony, both Bombardier and Boeing have stressed the importance of learning economies and economies of scale to the production of 100- to 150-seat LCA, through which a producer’s unit cost of producing a 100- to 150-seat LCA model declines as production of the model increases.²⁰³ Because of this characteristic of LCA production, if Bombardier is unable to achieve its production ramp up targets through 2021 by securing additional orders in the imminent future, it will forgo the learning economies and economies of scale that the targeted production rates would make possible, and suffer higher unit costs and weaker financial performance.

Bombardier is likely to focus its sales efforts on U.S. airlines due to the U.S. market’s size, Bombardier’s familiarity with the market, and the likelihood that U.S. airlines will seek to purchase larger volumes of 100- to 150-seat LCA in the imminent future. The U.S. market for 100- to 150-seat LCA is the largest single market for such aircraft in the world, and Boeing projects that it will account for *** percent of global demand for such aircraft over the next 20 years, equivalent to *** units per year.²⁰⁴ Bombardier is also highly familiar with the U.S.

¹⁹⁸ CR/PR at Tables VII-5, 8.

¹⁹⁹ CR at VII-4; PR at VII-3-4; CR/PR at Table VII-8.

²⁰⁰ Petition at Exhibit 108.

²⁰¹ CR/PR at Table VII-4. Bombardier argues that it will be unable to increase either production or exports to the U.S. market in the imminent future, beyond its planned delivery of aircraft to Delta. Bombardier’s Postconference Brief at 42-43. Nevertheless, based on the difference between its projected capacity and production as well as its stated 18 to 24 month lag between order and delivery, Bombardier has sufficient production slots available to accept additional orders for 100- to 150-seat LCA from U.S. customers in the imminent future, for production and delivery starting in late 2019. CR/PR at Table VII- 4.

²⁰² Conference Tr. at 214 (von Schrititz), 214 (Mullot).

²⁰³ CR at V-7-8; PR at V-3-4; Conference Tr. at 36 (Nickelsburg), 45, 92-93 (Anderson), 156-57 (Mullot).

²⁰⁴ CR at II-15 & n.46; PR at II-9 & n.46.

market, having made its largest sale to Delta, and considers the United States to be an extension of its home market in Canada.²⁰⁵

Bombardier has reported past, current, or likely sales discussions with *** U.S. airlines (***), including *** of the airlines with which Boeing has held sales discussions (***).²⁰⁶

All major U.S. airlines possess aging fleets of 100- to 150-seat LCA that will need replacement.²⁰⁷ Boeing reported that several airlines have already begun to consider purchases of 100- to 150-seat LCA, or are likely to do so in the imminent future. According to Boeing, ***.²⁰⁸ ***.²⁰⁹ ***.²¹⁰ ***, having ***.²¹¹ Bombardier has reported sales discussions, or likely sales discussions, with all of these airlines.²¹²

In addition to the attractiveness of the U.S. market to Bombardier, Delta's large order for CS100s may facilitate Bombardier's efforts to secure orders from other U.S. airlines. As a "marquee customer" for the CS100, Delta believes that its order served to validate the CS100 in the eyes of other U.S. airlines, thereby reducing their natural resistance to ordering an unproven aircraft.²¹³ Similarly, Boeing claims that the Delta order has given Bombardier "commercial momentum" in the U.S. market that should increase its likelihood of securing additional orders of C Series aircraft from other U.S. airlines.²¹⁴ As noted above, we intend to further investigate the importance of "commercial momentum" in the U.S. market in any final phase of the investigations.

In sum, we find that subject import volume and market share will likely be significant in the imminent future. We also find for purposes of the preliminary phase of these investigations that Bombardier is likely to aggressively pursue additional sales in the U.S. market in the imminent future.²¹⁵

²⁰⁵ CR at VII-9; PR at VII-5; Conference Tr. at 196 (Mitchell) ("So I would say that the markets are, in fact, one market not two. In fact, when we do our forecast, we forecast on North America. We do not separate between Canada and the United States.").

²⁰⁶ U.S. Producers' Questionnaire Response of Boeing at Question II-12; Foreign Producer/Exporters' Questionnaire Response of Bombardier at Question II-13.

²⁰⁷ CR at II-5-6; PR at II-3-4; Expert Report, Petitioner's Postconference Brief, Exhibit 8 at 17; Bombardier's Postconference Brief at 18-19.

²⁰⁸ CR at III-15; PR at III-5.

²⁰⁹ CR at III-16; PR at III-5.

²¹⁰ CR at III-16; PR at III-5.

²¹¹ CR at III-17, V-15 n.29; PR at III-5, V-6 n.29.

²¹² Foreign Producer/Exporters' Questionnaire Response of Bombardier at Question II-13; Conference Tr. at 21 (Novick) ("Bombardier has reportedly already had discussions with U.S. carriers, JetBlue and Spirit."). Bombardier was asked at the conference to provide sales projections for the U.S. market and "information on the . . . Spirit and JetBlue transactions that were mentioned earlier," Conference Tr. at 266 (Corkran), but declined to do so. See Bombardier's Postconference Brief, Attachment A at 6-7; Conference Tr. at 196 (Mitchell) ("when we do our forecast, we forecast on North America").

²¹³ CR at V-2-3; PR at V-1-2; Delta's Postconference Brief at 30-31.

²¹⁴ Petitioner's Postconference Brief at 30.

²¹⁵ We have also considered several other factors pertinent to our analysis of likely subject import volume. As previously discussed, aircraft manufacturers do not maintain inventories of LCA. CR (Continued...)

EXHIBIT 4

FINAL ASSEMBLY AND TESTS

A BIT OF HISTORY

Airbus' initial final assembly line was established in Toulouse, France for the A300/A310 – the two pioneering widebody aircraft that established the company as a world-class supplier of commercial jetliners. In addition to hosting the company's headquarters, the southern French city was home to a readily available, skilled aerospace workforce. Production flexibility designed into the final assembly line from its inception enabled Airbus to build on the success of the A300 version by using the same assembly jigs and tooling to build the shorter-fuselage, longer-range A310. It enabled slots on the same assembly line to be assigned to either the A300 or A310, depending on market demand.



The milestone A300 jetliner was produced at Airbus' Toulouse, France final assembly line

This built-in flexibility became the foundation for Airbus' approach of developing families of aircraft that incorporate significant commonality and can be built on a common assembly line.

BUILDING ON SUCCESS: A320 ASSEMBLY GOES GLOBAL



A320 Family jetliners are produced at four Airbus final assembly lines: Toulouse, France; Hamburg, Germany; Tianjin, China; and Mobile, Alabama in the U.S.

Toulouse also became home to Airbus' initial assembly line for the A320 Family, which subsequently was supplemented by capacity at Hamburg, Germany to meet high output demand for Airbus' best-selling aircraft. Another final assembly line opened in 2008 at Tianjin, China – the first such facility for Airbus to be located outside of Europe, providing a production site within one of the world's key future air travel markets.

Market proximity was an important element as well in Airbus' decision to create an A320 Family final assembly line in the United States. It is officially called the Airbus U.S. Manufacturing Facility and is located in Mobile, Alabama. The U.S. site delivered its first A320 Family aircraft in 2016. A320 Family production across the final assembly lines is assigned as follows:

Toulouse builds A320s; Hamburg has responsibility for the A318, A319, A320 and A321; Tianjin assembles A319s and A320s; and the new U.S. facility produces A319s, A320s and A321s.

All of the final assembly lines are organised in a similar manner by stations, each performing a specific task in the aircraft's assembly and systems testing. A320 fuselages arrive at the line in two segments, which are joined to begin the aircraft build-up sequence. The completed, joined fuselage is lifted into a position where the two wings are mated and engine pylons and landing gear fitted.

The A320 Family jetliners then move to a multi-purpose bay for system tests, and the aircraft is readied for cabin installation. This clears the way for the final operations: engine installation, fuel and pressurization tests, painting, engine run-up and flight testing, followed by aircraft acceptance and delivery.

ASSEMBLING THE LONG-RANGE A330/A340

Airbus applied its experience with the A300/A310 and A320 to create a technically advanced, streamlined final assembly line for the A330/A340 long-range family of aircraft, located in a purpose-built facility in Toulouse. Only two final assembly jigs were needed to build up either the twin-engine A330 or the four-engine A340 – with sustained A330 assembly continuing after the A340's production phase-out.

The A330/A340 FAL also is built around the 'station' principal. At Station 40, the aircraft's outer wings are joined to the centre fuselage and wing. This activity is highly automated, using eight robots that are situated on either side of the fuselage and above/below the wing. At Station 35, the jetliner's three fuselage sections are riveted together, along with installation of the horizontal and vertical stabilizers, landing gear with wheels, and engine pylons. This process is assisted by four robots which move around the fuselage on orbital railways.

The aircraft are then transferred on their own wheels to a large area called Station 30, where four long-range jetliners can be accommodated simultaneously. This is where systems are connected and tested, with ground mechanics conducting some 85 system validations. The mechanics go from aircraft to aircraft in Station 30, rather than having the aircraft move to different positions.

Next, completed A330s are moved outside the final assembly hanger for fuel and pressurization systems testing. The aircraft's engines are then installed and its cabin is fitted before painting, engine run-up and flight testing, all of which precede aircraft acceptance and delivery.

THE A380 FINAL ASSEMBLY LINE

Toulouse is the home as well for Airbus' A380 final assembly line – a massive facility that provides a space of 150,000 square metres for the flagship double-deck jetliner. The A380 assembly process takes place on a single combined station (a section of the assembly line dedicated to performing a specific task) where all operations except for engine installation are carried out. Representing over one third of an aircraft's value, engines are among the last components to be fitted to the A380 in order to reduce inventory cost.

When all sections have been positioned, a tool jig – an enormous scaffold – surrounds the aircraft for the assembly process: junction of the three fuselage sections, the wings, the horizontal and vertical stabilisers, engine pylons, landing gear and electric racks.

The aircraft is entirely assembled at this first station, apart from the engines which will be installed at the second work station, known as Station 30. Once assembly is complete, the aircraft is towed outside of the hall and back into one of the three modular stations to undergo a series of general tests.

A series of general tests are carried out at three identical "Station 30s": electric and hydraulic systems; onboard computer; mobile parts; and landing gear. Fuel tanks are also tested for leaks; finally, the A380's four engines are put in place. Airbus offers customers a choice of two engine types. The aircraft is towed to the south of the Lagardère assembly hall for engine testing at the run-up facility. Then it performs its first test flight.



Airbus' final assembly lines are organised by stations, with each performing a specific task in the aircraft's production and systems.

A380 from dream to reality: final assembly



A MODERN FACILITY FOR THE A350 XWB

Airbus' newest final assembly line in Toulouse for the A350 XWB was officially unveiled in October 2012. Designed to have the lowest environmental footprint of any final assembly line ever built by Airbus, this 72,000-square-metre, L-shaped facility houses the initial stages of final assembly, involving the join-up of fuselage and wings. It also includes 19,000 square metres of annexes (offices, workshops, logistics areas).

A streamlined aircraft assembly process for the A350 XWB allows teams to work in parallel, reducing the time from start of final assembly to aircraft delivery by 30 per cent. Additionally, this production centre was constructed near the existing A330 production facilities in order to provide resources optimisation.

With a new lighting system, roof-mounted photovoltaic solar panels, translucent panels and glass arched roofs, the assembly facility is capable of producing the equivalent of more than 50 per cent of its own energy.

Further increasing its status as the "greenest" final assembly line ever built by Airbus, many of the materials present on this site were recycled during the construction work. The taxiway and aircraft parking zone where the building is constructed were planed off, crushed and re-used in the new building, thus reducing the volume of materials brought in from quarries. Altogether, some 10,000 cubic metres of materials were recycled.

When the A350 XWB programme reaches its full production rate, the number of employees working on this site will be around 1,500.

FOCUS ON: A350 XWB ASSEMBLY PROCESS

The A350 XWB industrial process is optimised from start to finish. Build-up of this new-generation jetliner's major fuselage sections is completed in a streamlined workflow that moves in steps through several stations within the integration build.

After the cabin's galleys and crew rest compartments are move into an aircraft while at Station 59, all is ready for the fuselage join-up at Station 50 – which has movable jigs to accommodate the A350 XWB at this position on the final assemble line. Installation of the front crew rest and rear galley also is finalised, while the nose landing gear is added to the fuselage.

From here an aircraft is moved to Station 40, where wings and vertical/horizontal tails are attached – along with certain other airframe parts, including the landing gear and engine pylons. While the wings and tails are installed, Station 40 also sees cabin interior activity involving the installation of cabin side-walls, overhead storage racks, carpets, floor surfaces and partitions.



The three fuselage sections for Airbus' third A350 XWB are shown following their transport to the final assembly line in Toulouse, France – where they were successfully joined at the facility's Station 50.

After its transfer to Station 30, the aircraft is subjected to ground tests – with mechanical, electrical and avionics systems validated in configurations similar to in-flight conditions. Assembly work at this station includes the installation of seats and their cabling, the positioning of door linings, cargo compartment linings, partitions and galley equipment, along with the placement of final structural elements such as the aircraft's belly fairing, landing gear doors and wing leading edge.

Test programme and certification(market/how-is-an-aircraft-built/test-programme-and-certification/)

Clearing an Airbus jetliner for takeoff through the



Airbus is an aircraft manufacturer with the most modern and comprehensive product line. © Airbus S.A.S.2017. All rights reserved.

EXHIBIT 5

Airbus U.S. Manufacturing Facility

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Frequently Asked Questions (FAQ)

Q. Why did Airbus choose Mobile for the A320 assembly line?

A. This decision is based on an existing aviation infrastructure (Brookley Aeroplex is a large, underutilized former military base), transportation logistics (it has a port) and an existing Airbus presence (Engineering Center, Airbus Military Support Center). We have had an exceptionally positive experience in Mobile over the years—the people, business community, local government and community have all been welcoming and supportive of our activities here.

Q. Where/how can people apply to work at the Airbus U.S. Manufacturing Facility?

A. Airbus is partnering with AIDT (Alabama Industrial Development Training) for recruitment. People seeking employment at the Mobile manufacturing facility can look at and apply for open positions through the AIDT website: www.aidt.edu/airbus. Additional Airbus positions may be founded at the [Airbus careers website](#).

Q. What members of the A320 Family do you produce in Mobile?

A. We have the capability to assemble A319, A320 and A321 aircraft in Mobile.

Q. How does the production process work?

A. The Mobile A320 assembly line is part of Airbus's worldwide production network, and operates exactly the same way our assembly lines in other parts of the world do. Fully-equipped sections of aircraft are delivered to the Mobile facility via the port of Mobile, where they are assembled into the final aircraft, equipped and painted and then delivered to the customer.

Q. What is the current presence of Airbus (commercial aircraft) in the U.S.?

A. Airbus has approximately 1,100 employees currently working at other Airbus (commercial aircraft) sites in the U.S. (Approx. 1,200 if you add the Metron subsidiary; 3,000 if you add other Airbus entity employees (i.e., Helicopters and Defense&Space).

Q. Do you offer tours of the assembly line?

A. At this time the assembly line is not open for public tours. We hope to offer this opportunity in the future.

Q. Where can I buy Airbus branded merchandise?

A. Airbus merchandise is available through [Let's Shop Airbus](#).

Q. I'm an aviation fanatic! Can you send me some free Airbus items (i.e., keychains, models, etc.)?

We appreciate your interest in Airbus, but unfortunately don't have items to send. You can purchase items at Let's Shop Airbus at <http://www.airbus-shop.com/en/>.

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Daryl Taylor on Facebook**



EXHIBIT 6

Bombardier's Saint-Laurent Facility Tools Up for CSeries Aircraft Component Production

March 7, 2011 Montréal
Aerospace, Press Release

Bombardier recently upgraded more than 9,000 sq. m (100,000 sq. ft.) of its Saint-Laurent facility to support production of major components for its new game-changing *CSeries* aircraft, scheduled to enter service in 2013. The assembly process will include a fully automated moving line using the latest lean manufacturing principles, and the upgrades include new machinery, equipment and tooling.

Major *CSeries* aircraft components to be manufactured at the Saint-Laurent plant include the carbon-fibre aft fuselage and cockpit. The cockpit will be mated at the facility with the forward fuselage section made by Shenyang Aircraft Corporation (SAC) in China.

With a focus of on-time program delivery through advance testing and risk mitigation, Bombardier has capitalized on many years of experience in composites technology in both its Saint-Laurent and Belfast, Northern Ireland facilities. Automated Fibre Placement (AFP) techniques will be used to build the carbon-fibre composite aft fuselage, including the pressure dome. The advanced composite *CSeries* aircraft wing will be designed and built in Belfast using Resin Transfer Infusion (RTI) technology that has been developed at the facility.

"As soon as our new composite 'clean room' was completed, we immediately began laying up some test articles with our new AFP robot," said Hugues Lessard, Vice President, Saint-Laurent Manufacturing Centre, Bombardier Aerospace. "Bombardier's adaptation of AFP technology has also benefited from the largest collaborative aircraft structures demonstration project initiated by Canada's National Research Council to advance AFP use in the aerospace industry."

The Production Development team at the Saint-Laurent plant is also responsible for designing and installing the tooling for the new *CSeries* aircraft final assembly plant in Mirabel, 40 km north of Montréal. In addition to components made at Bombardier facilities, the all-new *CSeries* airliner will incorporate components from partners and suppliers located around the world.

The Saint-Laurent plant employs more than 3,000 people and is currently the largest of Bombardier's facilities in the Montréal area. The plant, which was the original Canadair site, produces major structural components and parts for Bombardier's *Challenger* and *Global* business jets, *CRJ NextGen* and *Q400 NextGen* airliners, and *Bombardier 415* amphibious aircraft. Bombardier's purchase of Canadair 25 years ago heralded the company's entry into the aerospace industry.

The *CSeries* aircraft, which is optimized for the single-aisle 100- to 149-seat market, will deliver the lowest operating costs in its class, exceptional operational flexibility, widebody comfort and an unmatched environmental scorecard.

About Bombardier

A world-leading manufacturer of innovative transportation solutions, from commercial aircraft and business jets to rail transportation equipment, systems and services, Bombardier Inc. is a global corporation headquartered in Canada. Its revenues for the fiscal year ended Jan. 31, 2010, were \$19.4 billion, and its shares are traded on the Toronto Stock Exchange (BBD). Bombardier is listed as an index component to the Dow Jones Sustainability World and North America indexes. News and information are available at www.bombardier.com.

Notes to Editors

- **Photo:** *CSeries* aircraft
- For additional images, video and product information on the *CSeries* aircraft, please visit: www.nowisthefuture.com.
- To receive our press releases, please visit the Email Subscription and RSS Feed section.

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Low Resolution (33 KB)

High Resolution (218 KB)

EXHIBIT 7

AIRBUS

29 MAY 2015 • COMMERCIAL AIRCRAFT

Airbus Launches Ship Carrying First Components for A320 Family Production in the U.S.

SUMMARY

**Wings, Tail, Fuselage Sections Depart
Port of Hamburg Bound for Mobile,
Alabama, U.S.A.**

Airbus A320 family aircraft production in the U.S. is on schedule to begin this summer as the large aircraft components for the first U.S.-produced aircraft today depart from the port in Hamburg, Germany, bound for Mobile, Alabama. The major component assemblies (MCAs) consist of the wings produced in the UK, the rear fuselage section produced in Germany including the tail cone (produced in Spain), and the forward fuselage section, including the cockpit produced in France, all of which contain parts from all over the world. The horizontal (from Spain) and vertical (from Germany) stabilisers are also on board. The first aircraft is an A321ceo destined for delivery to JetBlue in 2016. Airbus established the Airbus U.S. Manufacturing Facility in Mobile to assemble and deliver A319, A320 and A321 aircraft to meet the growing needs of its customers in the United States and elsewhere. It is the company's first U.S.-based production facility, and the fourth in the network which includes Toulouse, France; Hamburg, Germany; and Tianjin, China.

"This is a day of celebration as we reach another important milestone in aircraft production in the U.S.," said Fabrice Brégier, Airbus President and CEO. "North America is one of the largest single-aisle aircraft markets in the world. This manufacturing facility brings us closer to our customers, and strengthens the aerospace industry in the U.S., Europe and around the world. Production will begin in just a few weeks, with first delivery scheduled for 2016."

Approximately 200 employees, including some from Mobile who are training in Hamburg, celebrated this first shipment in a ceremony held today to launch the cargo ship, in the presence of the U.S. Consul General in Hamburg, Nancy Corbett. Traditional songs from all four European Airbus nations and the U.S. were played as the ship, bearing German and U.S. flags, and flags of the city state of Hamburg and the state of Alabama, sailed off.

The sea voyage will take approximately 20 days, and can be tracked on Airbus in the U.S. Facebook and Twitter pages, or on www.vesselfinder.com (ship name BBC Fuji).

11/3/2017

Airbus Launches Ship Carrying First Components for A320 Family Production in the U.S.



Airbus employees in Hamburg, Germany celebrate departure of the first components for A320 Family production in Mobile, Alabama – home to the Airbus U.S. Manufacturing Facility that will assemble and deliver A319, A320 and A321 aircraft to meet the growing needs of its customers in the United States and elsewhere

EXHIBIT 8

AIRBUS

30 AUGUST 2017 • COMMERCIAL AIRCRAFT

Elements for the 50th made-in-America A320 Family jetliner are shipped from Germany

Components for the 50th A320 Family aircraft to be built in the United States are now on their way to Mobile, Alabama, marking another milestone for Airbus' global network of jetliner final assembly facilities.

A sea-going ship carrying large components for the single-aisle jetliner – including the front and aft fuselage sections, wings, vertical tail and horizontal tail – departed Hamburg, Germany on 25 August, beginning a 29-day transatlantic voyage to the U.S. Gulf Coast.

These components, along with a separate inventory of smaller parts to be forwarded on another ship, will come together as the no. 50 aircraft assembled at the Airbus U.S. Manufacturing Facility – which is situated on the Mobile Aeroplex at Brookley.

Elements used to build A320 Family aircraft in the U.S. are provided from Hamburg, Germany, the home to another of Airbus' final assembly sites for its best-selling jetliner product line.

Hamburg shipped the first components to Mobile in May 2014, and the no. 1 American-built aircraft – an A321 version – was delivered in 2016. Today, the Airbus U.S. Manufacturing Facility is on track with its ramp-up to reach an output rate of four aircraft per month at the end of 2017.

Airbus has four assembly sites around the world for A320 Family aircraft. In addition to Mobile in the U.S. and Hamburg in Germany, they are located at Toulouse, France and Tianjin, China.



Ready for its transatlantic voyage is the 50th fuselage for an A320 family jetliner to be built at Airbus' Mobile, Alabama final assembly facility

EXHIBIT 9

AIRBUS

15 SEPTEMBER 2017 • COMMERCIAL AIRCRAFT

Airbus U.S. Manufacturing Facility Receives 50th Shipset

From zero to 50 in two years would be bad if talking about automobile acceleration, but when talking about A320 Family aircraft production in the U.S., the timing is just right. The Airbus U.S. Manufacturing Facility in Mobile has reached a key milestone as it has received the 50th shipset of major component assemblies (MCAs) just two years after taking delivery of the first shipset. The components will eventually become the 50th Airbus aircraft produced in the U.S.

"The arrival of the 50th shipset is right on time to a schedule that was created more than two years ago," said Daryl Taylor, Vice President and General Manager of the Airbus U.S. Manufacturing Facility. "The production team here in Mobile, and our Airbus colleagues around the world, have continued to work together to ensure we keep our promises to our customers. I am proud of what we've achieved together."

A shipset includes front and aft fuselage sections, a vertical and horizontal tailplane, and wings. The MCAs, which are manufactured in various facilities around Europe using parts and systems from around the world (including the U.S.), are brought together and shipped from Hamburg, Germany, to the Port of Mobile and transported by road to the Airbus U.S. Manufacturing Facility.

Since production began in 2015, Airbus has delivered 37 aircraft from Mobile to four customers: American Airlines, Delta Air Lines, Jetblue and Spirit. The facility will produce four aircraft a month by the fourth quarter of 2017. In addition to Mobile, Airbus delivers A320 Family aircraft from Hamburg, Germany; Toulouse, France; and Tianjin, China.



The 50th shipset of major component assemblies for an A320 Family jetliner arrives in Alabama for assembly at the Airbus U.S. Manufacturing Facility after a sea voyage from Hamburg, Germany.

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EXHIBIT 10

NewsRoom

4/6/05 Hamilton Spectator A14
2005 WLNR 5339804

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April 6, 2005

Section: Business

Safe Investment; Goodrich's Oakville plant to test landing gear for new Airbus A380

Steve Arnold

OAKVILLE

The Hamilton Spectator
Business

When the landing gear on the world's largest passenger airliner hits the tarmac, it touches earth at 200 miles an hour with 167 tons smashing onto its axles.

That's the weight of 150 compact cars or five blue whales.

For the 550 people sitting in the new Airbus A380, and the people waiting for them on the ground, it's a simple matter of life and death for that landing gear to do exactly what it's supposed to, every single time.

Ensuring that peace of mind is the job being handed to Goodrich Corporation's new landing gear testing facility in Oakville, the largest such testing lab in the world.

The plant, an addition to the factory the company already operates on South Service Road, was officially opened yesterday.

"This is a multi-million dollar investment that is evidence of our commitment to Airbus and the aerospace industry," said Goodrich chairman Marshall Larsen. "This will ensure the future of the Canadian aerospace industry."

The company wouldn't reveal the cost of the new facility or the value of a completed landing gear. The Oakville plant has 770 employees.

Goodrich's contract to make the wing and body landing gear for the new Airbus is an international effort -- components come from factories in Ohio, Tennessee and Poland for partial assembly and testing in Oakville after which the gear is sent to a plant in Toulouse, France for final assembly. From there it goes to the Airbus plant, also in Toulouse, where the aircraft itself is assembled.

The landing gear of a complex aircraft like the A380 is itself a complicated bit of technology. The gear housed in the body of the aircraft stands 18 feet tall and supports six massive tires on three axles. The wing gear has four tires on two axles.

The testing to be carried out in Oakville is a series of exhaustive studies designed to push models of the landing gear to their limits to ensure the manufacturing processes are right. Tests include dropping it at a speed of 12 feet per second with 500,000 pounds of weight on top and wheels spinning to ensure it can absorb the energy shock of a fully loaded jetliner -- that's roughly equal to an average passenger car crashing into a concrete wall at 93 miles (150 km) an hour.

The gear will also be lowered and retracted 22,000 times, roughly the number of times it will go up and down in its expected service life of about 30 years.

Program director Frank Karakas explained the testing program is for the first few models of each new product program -- if they pass the manufacturing program will then kick into full production.

"Obviously the landing gear is one of the top two or three components on any aircraft," he said.

In his official comments opening the new facility, Larsen said Goodrich has been a long-time supplier to Airbus, but the A380 program is the first time its has supplied landing gear. Across the company, Goodrich is supplying nine systems for the new Airbus, including the electric power system, air data system, flight controls, evacuation slides, and cargo system, as well as lighting, seating and several structural components.

Over its life, he said, the A380 program is expected to be worth \$6 billion US to Goodrich.

The first A380s are expected to enter commercial service in March 2006 with its first test flight expected to occur this spring. Over 150 of the aircraft have been ordered to date.

"Over 150 orders so far and it hasn't even made its first flight yet," Larsen said. "That's a very good start, so I think it's going to be a very successful program."

After the formal presentation, Larsen said a major boost in getting the work assigned to Ontario was given by the federal government's Technology Canada Partnership Program.

"Canada certainly would have been a strong candidate for this because we already had a facility here and it's always easier to expand facilities you already have," he said, "but it certainly was a critical factor in aiding our decision."

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905-526-3496

Photo: Hamilton Spectator Photo / Marshall Larsen, CEO of Goodrich Corp., left, and Allan Arbour of Airbus, at Oakville test facility yesterday.

— Index References —

Company: GOODRICH CORP; AIRBUS INDUSTRIE

News Subject: (Plant Openings (1PL39); Major Corporations (1MA93); Funding Instruments (1FU41); Real Estate Investment Trusts (1RE39))

EXHIBIT 11

ADVERTISING

**Flight
Global**[SIGN IN / REGISTER](#)[NEWS](#) > BOMBARDIER'S MIRABEL PLANT TO UNDERGO BIG EXPANSION FOR CSERIES

Bombardier's Mirabel plant to undergo big expansion for CSeries



16 FEBRUARY, 2011 | SOURCE: AIR TRANSPORT INTELLIGENCE NEWS | BY: MARY KIRBY | PHILADELPHIA

Bombardier is gearing up to significantly expand its Mirabel plant, outside of Montreal, in preparation for assembly of its new CSeries narrowbody.

The Canadian airframer currently produces CRJ700, CRJ900 and CRJ1000 regional jets at Mirabel. "One of the first things we'll be doing in advance of building a prototype [CSeries] airplane is to perform modifications to the [existing CRJ] hangar," says Jean-Guy Blondin, Bombardier CRJ programmes director.

"Next, a hangar will be built for the CSeries aircraft contributing to the flight test programme (that particular building will eventually be converted into a delivery centre for the CSeries and CRJ). We will then add a final assembly hangar - similar in style to the existing CRJ final line - but a new separate building connected to the existing building just outside of the current structural assembly area and system installation hangar."

Current aerial overview of Bombardier's

Mirabel plant

The next step for Bombardier will be to move its product delivery centre, which is at the end of the hangar, to a new facility. There it will join the CRJ and the CSeries in a brand new delivery centre. There will also be an additional paint facility and a little bit more administrative office space.

Bombardier also intends to build a facility for CSeries flight testing at Mirabel, in addition to the Complete Integrated Aircraft Systems Test Area (CIASTA) building that has already been erected to house a virtual CSeries aircraft.

The company declines to provide specific dates for its planned construction milestones, but admits the Mirabel plant is going to see "a major addition" in the next few years.

"The combined production rate of the CSeries and the CRJs will obviously demand a fair amount of investment. In all, the additional new space equates to 1,200,000 sq ft," says Blondin.

The first flight of a 110-seat CSeries CS100 is due to occur in 2012, with deliveries beginning in late 2013. The company is offering both the CS100 and a 130-seat CS300 variant, and has secured a total 90 CSeries orders to date.

Related Content

Irish lessor LCI bullish on CSeries prospects

Bombardier and Comac work to define parameters of new tie-up

Bombardier insists it will not pursue stretched 'CS500'

Air Nostrum "very pleased" with new CRJ1000 NextGen

Bombardier completes CSeries upgrades for Saint-Laurent facility

Sources: CSeries first flight slips three months

Pratt & Whitney finishes FETT ground tests, juggles schedule

Embraer waits for 737 decision before defining own plan

EXHIBIT 12

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BUSINESS

Airbus's New Push: Made in the U.S.A.

By Daniel Michaels, Jon Ostrower and David Pearson

Updated July 2, 2012 7:51 p.m. ET

Airbus detailed plans to spend \$600 million to build jetliners in Alabama—its first assembly plant in the U.S.—in a bid to grab more American orders from U.S. rival Boeing Co. [BA -0.34% ▼](#) and to defuse political opposition to the European aerospace giant.

Boeing has long argued that Airbus, a unit of European Aeronautics Defence & Space Co., had unfairly used financial support from European governments to undercut Boeing and hurt U.S. jobs—something Airbus has staunchly disputed amid a long-running trade war.

Airbus's plans to bring roughly 1,000 jobs to the U.S. could address some of those criticisms. Its choice of Alabama, a "right to work" state where contracts can't mandate union membership as a condition of employment, to build a new, nonunionized assembly plant highlights growing competition among some U.S. regions to grab pieces of the aerospace manufacturing supply chain.

Airbus officials said the state offered a package of incentives valued at more than \$100 million for the plant in Mobile. Details weren't disclosed, but such benefits generally include a mix of tax breaks, job-training and infrastructure improvements.

Airbus, whose workforce in Europe is heavily unionized, first established an engineering center in Mobile in 2005 and now employs 200 people at the Brookley Aeroplex there. The new plant will be built at the same location.

Airbus announced its plans at a ceremony in Mobile rich with American patriotic symbols. Airbus Chief Executive Fabrice Brégier said Airbus hopes building the plant will help the company increase its share of the U.S. market for large jets to close to 50% within a decade, from around 20% now.



Airbus CEO Fabrice Brégier, left, with Alabama Governor Robert Bentley Monday. REUTERS

Airbus officials also said that manufacturing in the U.S. could help hedge against currency gyrations for jetliners that are sold world-wide in dollars but now manufactured with most costs in euros.

Chicago-based Boeing said in a

statement that any job creation from Airbus's planned investment won't offset what Boeing asserts is damage done to American employment by Airbus. Boeing officials said that European governments' financial support for Airbus, which is dominated by politically connected French and German shareholders including the French government, has allowed the plane maker to undercut Boeing and thereby hurt American jobs.

Airbus and European officials deny the charge.

Airbus encouraged its American suppliers to speak out in favor of the move to Boeing's turf. General Electric [GE 1.00% ▲](#) Co. CEO Jeffrey Immelt said foreign investments like the one from Airbus are a focus of President Barack Obama's Council on Jobs and Competitiveness, which Mr. Immelt heads.

"U.S. manufacturing can compete with anyone in the world and this move makes that case," Mr. Immelt said in a statement. GE is also one of Boeing's biggest suppliers.

Airbus's plan "shows that we are continuing to make progress in encouraging companies from around the world to bring jobs and investment to America," a White House spokeswoman said.

EARLIER

- Airbus Nears Decision on U.S. Plant 6/27/12
- Airline Mergers Leap Borders 6/27/12
- Airbus Sets Repair Plans 6/11/12

The new Airbus plant will be the fourth world-wide making its A320-family of single-aisle planes.

Airbus plans to start building its current A320 models at the new plant in 2015 and by 2018 produce up to 50 planes annually. It will also

shift to building a planned updated "Neo" version of the A320 with new engines. State officials said they expect significant economic benefits, in part because each job at the Airbus plant is expected to produce at least four more jobs in the local economy.

The announcement comes as economic weakness has left local governments especially desperate to create jobs. Local politicians at Monday's ceremony trumpeted the employment that the European company's investment could bring. "How can that not be anything but good for Mobile, Alabama and America?" said Republican Sen. Jeff Sessions. Mr. Bregier emphasized that Airbus is "going to generate economic growth right here in Mobile, Alabama."

The Airbus move has sparked some concern among labor unions in Europe that jobs are being exported to the U.S. just as euro zone unemployment hit 11.1%, the highest level since records began in 1995.

Airbus, based in Toulouse, France, and its boosters say the Alabama expansion will create more European jobs at suppliers and Airbus plants producing pieces of the planes that will be assembled in Mobile. "To my knowledge, they welcome it," said Mr. Bregier of his European workers.

"If Airbus didn't do it, they would lose out," said Howard Wheeldon, director of policy at ADS, the British aerospace trade group. "But that argument has to be sold" to Europeans.

Boeing also recently opened a factory in South Carolina that is its first nonunion jetliner assembly facility.

The cost of producing planes in Alabama is similar to that in Europe, Airbus executives said. Final assembly of an airliner accounts for about 5% of its value, and about 40% of the equipment on Airbus planes already comes from the U.S.

But final assembly has a disproportionate impact on public perceptions of the plane, industry officials say.

John Leahy, Airbus chief operating officer for customers, said in an interview that Airbus is "becoming American," following a path blazed by foreign car makers including Toyota Motor Corp. [TM 0.25% ▲](#) The Japanese company established its first U.S. factory in Kentucky in 1988 in part to bypass steep tariffs on imports and to build support in America amid fears of foreign competition for U.S. auto makers.

Assembly plants also attract related investment by component makers. Established and growing U.S. aviation hubs including Seattle, Wichita, Kan., and North Charleston, S.C., have drawn subsidiaries of major European parts makers including Safran SA of France and GKN [GKNLY -0.68% ▼](#) PLC of Britain. European aerospace nodes in Toulouse, France,

and Hamburg, Germany, boast operations of American giants including United Technologies Corp. [UTX -0.32%](#) and Rockwell Collins Inc. [COL -0.07%](#)

Even suppliers from Boeing's birthplace near Seattle are eager for work feeding Airbus's new facility, said Alex Pietsch, director of Washington Gov. Chris Gregoire's office of aerospace.

The business of building and selling commercial airliners is intensely political, even though global trade barriers have fallen in recent years. Developing countries like China and Brazil that are buying a growing share of the world's jets have demanded a portion of the business building bigger planes. Airbus and Boeing now source key parts of their planes from countries including India, Morocco and Poland, as well as more established aeronautical producers including Japan, Canada and Russia. Airbus already has an assembly plant in China.

Airbus has struggled with political pushback in the U.S.

After it announced a decade ago that it would compete with Boeing for a multibillion-dollar contract from the Defense Department for midair refueling planes, Boeing in 2004 convinced the U.S. government to file a case against Airbus and the European Union in the World Trade Organization, accusing European governments of providing Airbus with illegal subsidies. The EU responded with a case against Washington and Boeing. The WTO has found merit in some of the claims from both sides.

The decision to open a plant in Mobile is partly a consequence of the WTO case, EADS officials have said.

During the litigation, they came to understand the level of support Boeing was receiving legally from U.S. state governments and decided to pursue similar benefits, a senior EADS official said.

Another big advantage for Airbus should be to mute the currency fluctuations it faces from assembling planes primarily in France and Germany. While most of its costs are in euros, commercial airplanes globally are priced in dollars, which leaves Airbus at a competitive disadvantage when the dollar is weak.

Assembling planes in Mobile "will help us reduce foreign exchange risk by creating a natural (currency) hedge," Mr. Leahy said.

—Doug Cameron and Jared A. Favole contributed to this article.

Write to Daniel Michaels at daniel.michaels@wsj.com, David Pearson at david.pearson@dowjones.com and Jon Ostrower at jon.ostrower@wsj.com

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EXHIBIT 13

Boeing & Aerospace

Boeing retools Renton plant with automation for 737's big ramp-up



Originally published April 18, 2015 at 8:00 pm Updated May 21, 2015 at 9:57 am



1 of 10 Systems installation at Boeing's Renton plant now takes place on six 737 fuselages at the same time. That will grow to nine fuselages later this year as production ramps up. These fuselage sections move on a rail... (Mike Siegel / The Seattle Times) **More** ▾

Boeing is transforming its 737 plant in Renton with new automation as it prepares to ramp up production to the unprecedented rate of 52 jets per month, or even more.



By **Dominic Gates**

Seattle Times aerospace reporter

Six shiny, green 737 fuselage shells, freshly delivered by train from Wichita, Kan., sit snugly cradled in a steel superstructure like giant eggs in a carton at Boeing's Renton factory.

Underneath, swarming mechanics install the guts of each airplane — wads of insulation blankets, snaking bundles of electrical wiring, intricately intertwined metal hydraulic tubes and pumps.

But despite appearances, those fuselages aren't trapped in steel.

Soon, the steel walkways encasing the jets will lift away like drawbridges, freeing the fuselages to slide 150 feet forward during the night into the next position in Boeing's newest moving assembly line.

The factory, already a showcase of efficiency with its two final-assembly lines churning out 42 of the single-aisle jets monthly, is gearing up by 2018 to build them at a prodigious pace of 52 a month — and later perhaps even more.



After finishing systems installation, a Boeing 737 is prepared for wing installation at Boeing's 737 assembly plant in Renton. (Mike Siegel / The Seattle Times)

A key step is extending the use of moving assembly lines to the back-end shops where mechanics build the wings and stuff those fuselage shells.

The new machinery is being installed even as Boeing choreographs the addition of a third final-assembly line at the plant. This year, that line will begin building the new 737 MAX, the next version of the best-selling single-aisle jet, which already has a backlog of more than 2,700 orders.

Director of factory operations Marty Chamberlin likens it to “changing the wheels on the car as we head down the freeway at 60 miles per hour.”

“The most productive final-assembly plant on the planet” 🐦

The production boom offers assurance that most of the Renton plant's 12,000 jobs won't go away anytime soon.

All the investment and furious re-engineering of the factory is designed, said Chamberlin, to ensure Renton remains “the most productive final-assembly plant on the planet.”

Stuffing fuselages fast

During a recent visit, big wooden crates containing 737 tail parts arriving from China were lined up along the Lake Washington shore, at the plant's doorstep.

On the plant's other side, a train from Wichita waited to offload its cargo of fuselage shells.

The 737 supply chain is clearly humming. The plant is rolling out two jets every workday, already a record rate of 42 per month.

Airbus pumps out its rival A320 jets at the same breakneck pace, but using three factories — in France, Germany and China.

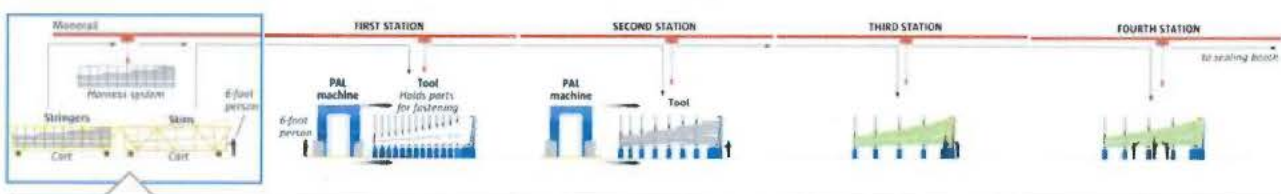
Yet under the surface of Renton's smooth operation, inside all is in flux.

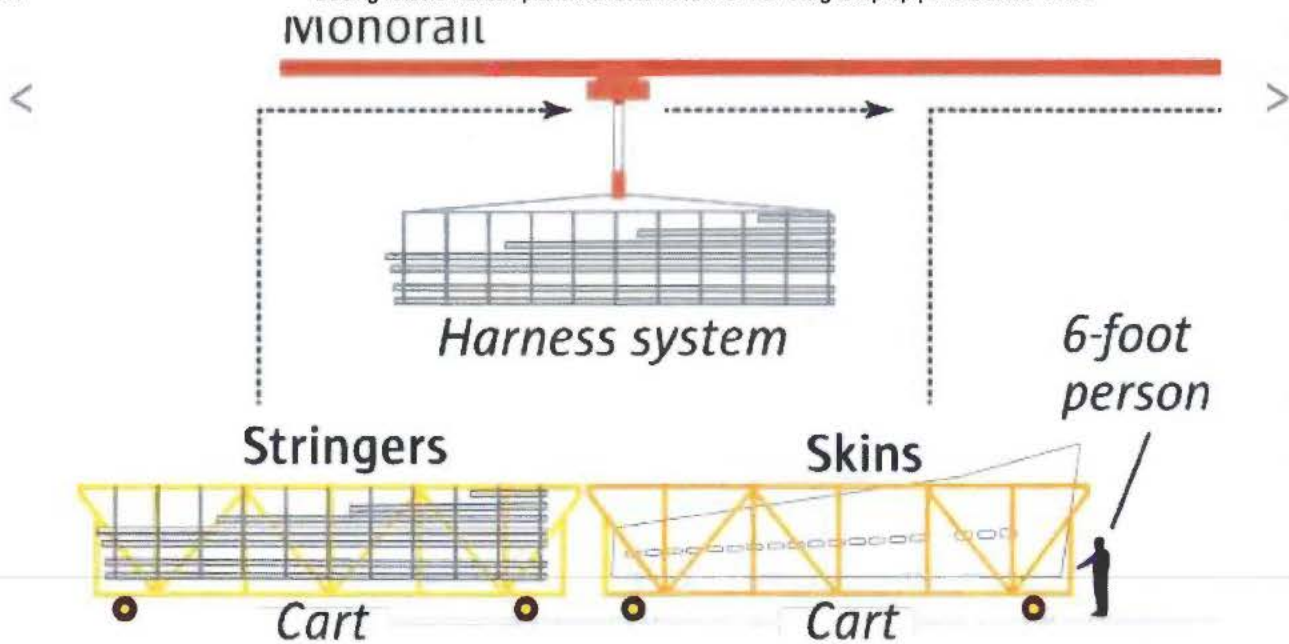
Speeding 737 production

Boeing is adding new technology and automation so by 2018 its Renton factory can boost 737 output to 52 planes a month, and later potentially more. This graphic shows how the system will function at the 52-plane rate. Click an individual segment for more information.

1 Drilling 55,000 holes a day

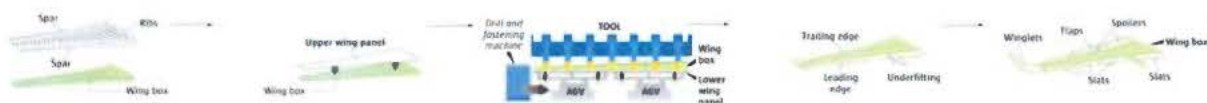
Upper and lower wing panels arrive from Boeing's Frederickson plant. Each panel production line has four stations and a monorail to carry parts down the line to each station.





Wing panels are built from skins and stiffeners called stringers. Skin panels are placed on the tool at the first station. The stringers arrive in a harness system that allows the monorail to carry them in a prearranged order to be fastened to the skins.

2 Wings from skin and bone



3 Three days, three stops



4 Finishing five jets every two days





The tightly packed area where the wiring, air ducts and hydraulics are installed in the fuselages will complete its transformation to a moving line later this year, when that egg-carton array grows from six fuselages to nine.

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The fuselages are suspended on rails hidden inside this newly built fixture. Each will stay in a fixed position exactly one day, then slide to the next position that night.

On the third night, fully stuffed with all their systems, three fuselages will be lifted out by crane and swung overhead to one of the final-assembly lines.

The new process will streamline work in highly congested parts of the plane, parceling it out so crews of mechanics with distinct installation jobs don't get in each other's way.

And with the work divided into three physically separated chunks, mechanics can have the specific tools they need right at hand in each position, said Pat Doyle, who leads a crew working the lower fuselage.



(0:45)

[See Boeing's 737 plant automation with Dominic Gates](#)

Aerospace reporter Dominic Gates explains Boeing's new automation system in its 737 plant in Renton. (Mike Siegel / The Seattle Times)

"It's like setting up your kitchen so you know where all the cups and plates are," said Doyle. "It'll clean up the flow."

The projected new rhythm will enable Boeing to go even higher than its publicly announced production-rate goal.

[Some industry analysts question the wisdom of planning to ramp up](#) so steeply, in case market demand collapses. Yet once the new MAX assembly line is at full throttle toward the end of the decade, Renton is theoretically tooled to produce up to 63 airplanes a month.

Wings remade

In January, a barge slowly carried a mysterious, 25-foot-tall white cube through the Ballard Locks and into Lake Washington. It contained a giant Electroimpact automatic drilling machine, costing tens of millions of dollars, en route from Mukilteo to Renton.

Electroimpact's fingerprints are everywhere in the Renton building where Boeing makes the 737 wings. The high-end engineering firm, headquartered in Mukilteo, has designed most of the automated equipment that makes the wings for both Airbus and Boeing.

Before wing assemblies are sealed, James Hollingsworth vacuums inside for a 737 jetliner being assembled at Boeing's Renton plant for delivery to Beijing Airlines. The plant now rolls out 42 of the jets each month. The production rate is scheduled to increase steadily to 52 jets a month by 2018. (Mike Siegel / The Seattle Times)

Now Boeing is testing a new assembly line using the Electroimpact machines to build the 45-foot-long wing-skin panels.

Fastening the long, thin stiffeners known as stringers to each aluminum wing-skin panel requires drilling approximately 5,000 holes, or about 40,000 holes a day at current production rates of those skins.

Renton's current drilling machines, made by New York-based Gemcor, can drill and fasten 70 percent of the wing-panel holes. They cannot install bolts, which make up 10 percent of the fasteners.

Electroimpact's moving-line system can drill 90 percent of all the holes and install bolts as well as other fasteners, completing that work in two shifts rather than the three the Gemcor machines need.

Carlos Walker, a 737 manufacturing engineer, said the new machine quietly "crushes the fastener with hydraulic force," making much less noise than a mechanic hammering with a rivet gun.

That quiet helps the machine operators, who must be alert to any unusual sound that indicates a broken fastener or other problem.

"You always listen," said drilling-machine operator Les Nystrom. "If we hear something funny, we stop."

Picking up the pace

Monthly output of 737s from Boeing's Renton plant: 2005 21 2014 42 2017 47 2018 52

The first production wing-skin panel came off the new line in February. Sometime next year, the line will be complete with eight giant Electroimpact machines plus a spare in place, ready for a further increase in tempo to 47 planes a month in 2017.

Elsewhere in the wing facility, other Electroimpact machines automate the process of assembling the skin panels, ribs and spars into complete wings.

An automated guided vehicle glides under the semi-completed wing and lifts the lower skin panel into position. An electromagnet clamps the panel in place, and the machine drills and fastens it.

Over in one corner stands a solitary remnant of how Boeing used to assemble the wings just five years ago.

In large three-story fixtures, the 737 wing parts were held in place vertically as mechanics trudged up and down stairs from one level to the next, drilling all the holes

manually.

That one lingering fixture is now used only to make the unique wings for the 737-based P-8 Navy anti-submarine jets, which are manufactured separately at a slow rate of about one per month.

It serves to remind older Renton workers of how completely their jobs have been transformed.

Job prospects

Over the past decade the Renton workforce has grown steadily — though not proportionately with the soaring production rate.

A decade ago, when Boeing was producing 21 jets per month, the company reported to the state that it had 9,275 workers in Renton.

At the end of 2013, when it produced exactly twice as many jets a month, the most recent report showed Renton's workforce had grown by 31 percent to 12,132 people.

The increased automation is only one factor. Another major element has been Boeing's push for "lean manufacturing," which has shop-floor workers, as well as managers, coming up with a myriad small efficiency moves.

Mechanic Gary Laws showed a display board where workers tack Post-it notes with suggested improvements.

One such suggestion has speeded work at a crucial installation bottleneck — the landing-gear wheel well, a tight space filled with spaghetti-like hydraulics and wiring bundles.

A tail section for a Southwest Airlines 737 is prepared for mounting at the assembly plant in Renton. The plant completes two jets every workday. (Mike Siegel / The Seattle Times)

Once installed individually, the hydraulics tubes and pumps that go in the wheel well are now delivered from Boeing's Auburn parts plant in pre-assembled racks of connected pumps and tubes.

At the widebody-jet plant in Everett, Boeing outsourced the delivery of parts for the 787 Dreamliner to logistics firm New Breed, taking jobs away from Machinists union members.

In Renton, by contrast, management seems to want to preserve such jobs.

In a corner of the Renton site, Boeing has set up what it calls the “materials marketplace,” a big warehouse where incoming parts are staged, awaiting delivery to the assembly buildings the moment they are needed.

Operations director Chamberlin said Boeing will streamline this delivery system to ensure it's efficient, but won't hire New Breed to do it.

“We've got a long-range plan about keeping work here,” he said.

So far this year, employment in Renton is up about 100 net jobs.

“We will be trending up” to support the higher production rates, said Boeing spokesman Adam Tischler.

Laws welcomes all the automation, saying it makes a mechanic's job less physically hard.

And although the need for new hires will probably be reduced when the new automated systems are fully in place, he said the planned production ramp-up offers job security to him and his co-workers.

“In the future, you might not have a massive hiring spree, but there won't be any big exit out the door,” said Laws.

Dominic Gates: 206-464-2963 or dgates@seattletimes.com

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6/4/15 Euclid Infotech: Procurement News 00:00:00

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June 4, 2015

Section: Aviation, Transportation

Germany : DHL transports first aircraft components for
Airbus from Hamburg to its newly built US assembly plant

DHL Global Forwarding has begun shipping the first aircraft components from the Hamburg Finkenwerder Airbus plant to the newly built US assembly plant in Mobile, Alabama. DHL Industrial Projects developed a multimodal transport concept for the European aircraft manufacturer. From the beginning of June 2015, large components of the A320 family as well as 1,000 sea freight containers are to cross the Atlantic. Additional air freight shipments are necessary, partially for transporting hazardous goods. Delivery within maximum 29 days is of critical importance since configuration and control of the final assembly processes at Airbus depend upon it.

"Transport management for highly sensitive heavy goods calls for highly specialised expertise in project logistics as well as a strong grasp of technical and security issues," says Nikola Hagleitner, CEO Industrial Projects, DHL Global Forwarding. "Together with Airbus our Industrial Projects team designed a sophisticated multimodal transport concept."

Five different aircraft components with a maximum weight of thirty tonnes each are loaded onto special sea transport frames and secured on roll trailers with twist locks before being moved to the Finkenwerder Airbus plant's wharf. Within about six hours, two 200-tonne cranes transfer then the parts to a heavy-cargo vessel. The heavy goods are transported on board a chartered ship to the US. In the harbour at Mobile, Alabama after customs clearing, the aircraft components are loaded with the help of special cranes onto heavy-duty trailers and transported a few miles to the Airbus assembly plant.

After unloading the aircraft components, the sea transport frames are disassembled and transported on flat racks by ship back to Bremerhaven, Germany. From there they go back to Finkenwerder by lorry, where they are reassembled.

Additional to these major aircraft components, 4,000 parts general cargo are loaded into sea containers at the Hamburg hub, transported then by truck to Bremerhaven and from there by container ship to Mobile.

For air freight shipments, among others also hazardous goods, both LD3 containers and consolidated shipments are used along with special procedures that are legally required for securing and transporting this type of cargo. Similarly to the sea shipments, after clearing customs, the freight is transported by truck to the assembly plant in Mobile and the containers are re-used for shipping back the empty receptacles to Finkenwerder.

In the course of this project, DHL will transport a total of 80,000 tons of freight volume for the assembly of aircraft in the U.S.A., comprising general cargo and major aircraft components including rear fuselage, forward fuselage, wings, and the vertical as well as horizontal tail plane.

---- Index References ----

Company: AIRBUS SAS; DHL GLOBAL FORWARDING SA/NV

Industry: (Aerospace (1AE56); Aerospace & Defense (1AE96); Commercial Aircraft (1CO01); Container Shipping (1CN22); Fixed-Wing & Helicopters (1FI11); Freight Transportation (1FR88); Freight Transportation Logistics & Distribution (1FR45); Ocean Shipping (1OC22); Transportation (1TR48))

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INSIDE BOMBARDIER CSERIES' FINAL ASSEMBLY LINE

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Inside Bombardier CSeries' Final Assembly Line

**July 08** 11:55
2016by Chris Sloan
5 Comments[Print This Article](#)

MONTREAL — Just after the first passenger flight of the CSeries in North America and before the handover of the first CS100 to launch customer SWISS, *Airways* was invited to a brief tour at the jetliner's Final Assembly Line (FAL) located in Mirabel.

Antonio Ficca, Manager, Product Marketing, Bombardier Commercial Aircraft, took us along the premises, which are dedicated to the assembly of the CSeries. The parts of the aircraft come from different sources. The wings are manufactured at Bombardier's Belfast production plant, while the aft fuselage and cockpit are built in Bombardier's Saint-Laurent Manufacturing Center in Quebec, Canada. The main central section of the fuselage is built by Shenyang Aircraft Corporation (SAC), a subsidiary of the state-owned aviation industrial entity China Aviation Industry Corporation (AVIC).



Several fuselage sections coming from China are currently stored and waiting for assembly. (Credits: Author)

The first eight aircraft (seven flight test vehicles plus the first production aircraft) were assembled in a temporary Final Assembly Line. The first aircraft to roll out from the new FAL will be a CS100, which will also be delivered to SWISS in July. At this time, other six CSeries are being assembled, including the first production CS300 aircraft, which will be delivered to AirBaltic later this year.



The first production CS300 will be delivered to AirBaltic. Notice the airline sticker placed at the front of the fuselage. (Credits: Author)

The Final Assembly Line is currently working five days a week with three 8-hour shifts. Bombardier employs 1,200 people on the site, dedicated exclusively to the production of the CSeries. The FAL, which went into full production last January, accommodates nine aircraft. Most of the aircraft on the line are the CS300 variant, which to date accounts for two-thirds of Bombardier's order book.



To date, six CSeries are being assembled in the FAL. (Credits: Author)

Bombardier remains committed to its plans to increase the production rate progressively, from 15 to 18 aircraft this year to up to 55 aircraft in 2018, 85 in 2019 and to 120 aircraft in 2020.

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CHRIS SLOAN

Aviation Journalist, TV Producer, Pursuer of First & Last Flights, Proud Miamian, Intrepid Traveler, and Did I Mention Av-Geek? I've Been Sniffing Jet Fuel Since I was 5, and running the predecessor to airwaysmag.com, Airchive, Since 2003. Now, I Sit in the Right Seat as Co-Pilot of Airways Magazine and airwaysmag.com. My favorite Airlines are National and Braniff, and My favorite Airport is Miami, L-1011 Tristar Lover. My Mantra is Lifted From Delta's Ad Campaign from the 1980s "I Love To Fly And It Shows." chris@airwaysmag.com / @airchive

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Archie Leach

July 09, 12:40

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If I were on their order list I would demand the same reduction or I'd cancel. It's only fair.

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EXHIBIT 16



The Airbus A321 in the final assembly-line hangar in Mobile, Ala., where parts of the aircraft from all over the world are finally brought together. Christopher Payne for The New York Times

A Look Inside Airbus's Epic Assembly Line

A confluence of political and economic forces has prompted Europe's largest airplane manufacturer to place a factory in Alabama — and to create one of the world's most gargantuan supply chains.

By BINYAMIN APPELBAUM and CHRISTOPHER PAYNE MAY 3, 2017

The following photographs show an Airbus A321 being assembled over the course of six months in a new facility in Mobile, Ala.

The ships from Hamburg steam into Mobile Bay several times a month. Loaded upon them are the titanic parts of flying machines: tails, already painted; wings, already functional; the fuselage, in two segments, front and rear. The pieces are set on flatbed trucks and escorted by police cars to a decommissioned Air Force base, Brookley Field, about four miles from the harbor. There, between the runways, the European aerospace company Airbus has built a \$600 million factory to assemble airplanes in the United States.

It's an odd arrangement for many reasons, not least among them being the fact that Airbus could assemble its planes almost anywhere. The finished product is easy to move (it flies), and the hardest work of making it is buried in its components. The vertical stabilizer is made in Getafe, Spain. The wings come from Broughton, Wales. The front of the fuselage is made in Saint-Nazaire, France; the back, in Hamburg. What happens in Mobile doesn't resemble manufacturing so much as the assembly of a particularly large and tremendously complicated piece of Ikea furniture. Here, the American workers attach the pieces of the airplane using tools and connectors, many of which are also imported from Europe. Many of the supervisors come from the continent, too; the Mobile factory manager was raised about 10 miles from the wing plant in Wales. And the company says that it saves no money by building planes in Mobile.



Parts arriving at the port of Mobile. The rear fuselage, which was made in Hamburg, is lifted off the cargo ship after an approximately 21-day journey.

Christopher Payne for The New York Times



The vertical stabilizer, made in Stade, Germany, lifted off the cargo ship.

Christopher Payne for The New York Times



The forward fuselage, made in Saint-Nazaire, France, lifted off the cargo ship.

Christopher Payne for The New York Times

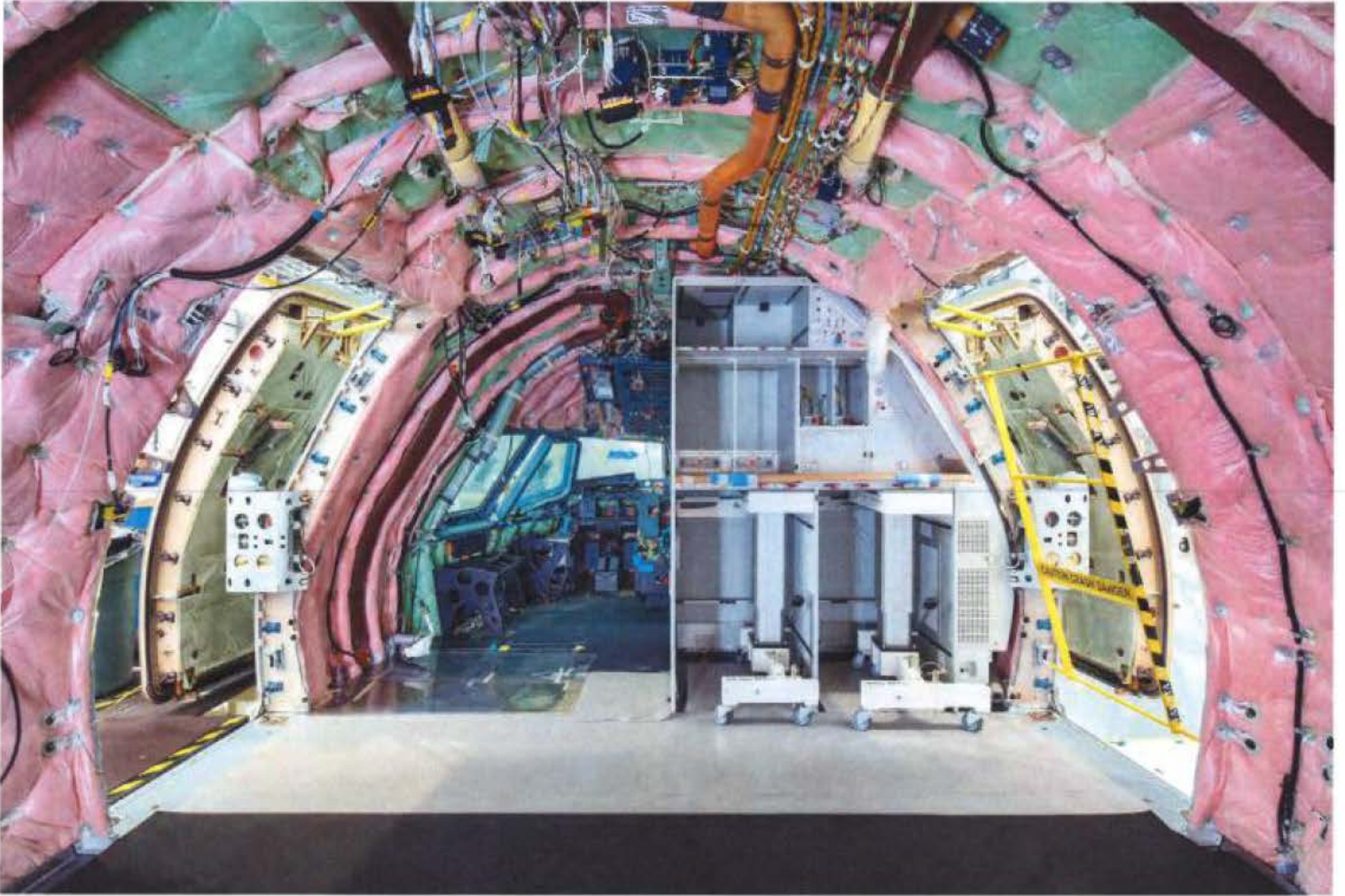
But Airbus has contorted its supply chain to end at an old military base in southern Alabama precisely because it can now build airplanes anywhere. In this it resembles many of the world's largest manufacturers, which now tend to be global operations that pull together components from hundreds of factories in dozens of countries to create products sold around the world. And many of those companies, including Airbus, see advantages in completing the process in the markets where those products are sold. It was politics, as much if not more than economics, that brought Airbus to Mobile.



After arriving at the port in Mobile, all the major components are taken to the transshipment hangar, where they are inspected before going to the final assembly-line hangar. Here, the rear fuselage is lifted off a trailer. *Times*

Christopher Payne for The New York

Airbus executives realized years ago that the company could benefit from capturing a larger share of America's immense military budget. And so it embarked on a strategy of investing in the South, a part of the United States that, historically, hosted only the military half of the military-industrial complex. In 2004 the company opened a helicopter factory in Columbus, Miss. In 2005, it won a Coast Guard contract to supply 36 maritime patrol aircraft; the planes were built in Spain, but Airbus opened a maintenance and repair facility in Mobile. Then, in 2008, Airbus and Northrop Grumman were awarded one of the largest defense contracts in history: a \$35 billion deal to build 179 refueling tankers for the Air Force, which Airbus promised to assemble in Mobile.



At this station, the lavatories and galleys are installed before the forward and aft fuselage sections are joined. Here, a galley has been installed inside the forward fuselage, which is made in Saint-Nazaire, France. Christopher Payne for The New York Times



Looking inside the rear section of the fuselage, toward the aft of the plane.

Christopher Payne for The New York Times



Christopher Payne for The New York Times
Working on the cargo hold.

This small Alabama city had been trying to land an airplane factory for more than 30 years. In 1993, officials thought they had a deal with McDonnell Douglas to build airplanes at Brookley Field. Five years later, in 1998, a deal with an Indonesian airplane manufacturer seemed so sure that the city renamed a street Gatotkoco Drive after a mythical Indonesian warrior. Five years after that, Mobile made the shortlist for a Boeing factory. Each time, the city was left at the altar. Airbus's Air Force contract seemed to suggest Mobile's search was over. Not quite: Boeing snatched away the deal by persuading the government to reopen the bidding under a new set of rules. Airbus concluded that its American roots needed to be deeper still, and it announced in 2012 that it would begin assembling passenger airplanes in Mobile.



An engine for the A321 being built at the Pratt & Whitney factory in Middletown, Conn.

Christopher Payne for The New York Times



Christopher Payne for The New York Times

A fan blade set for an engine of the A321. Times

Similar courtship rituals have brought a bevy of other manufacturers to Alabama in recent decades. Next door to the Airbus factory is an airplane repair center, owned by the government of Singapore, that employs 1,300. Across the harbor is an Australian shipbuilder that employs more than 4,000. About 35 miles upriver is a giant steel plant jointly owned by companies based in Luxembourg and Japan. And through Mobile harbor moves a steady flow of containers packed with auto parts for a Mercedes-Benz plant in Vance; a Honda factory in Lincoln; and a new Hyundai factory in Montgomery. Together, those three foreign automakers employ another 11,000 Alabama residents.



In Mobile, at the next station, the wings, brought from Broughton, Wales, are installed on the plane.

Christopher Payne for The New York Times

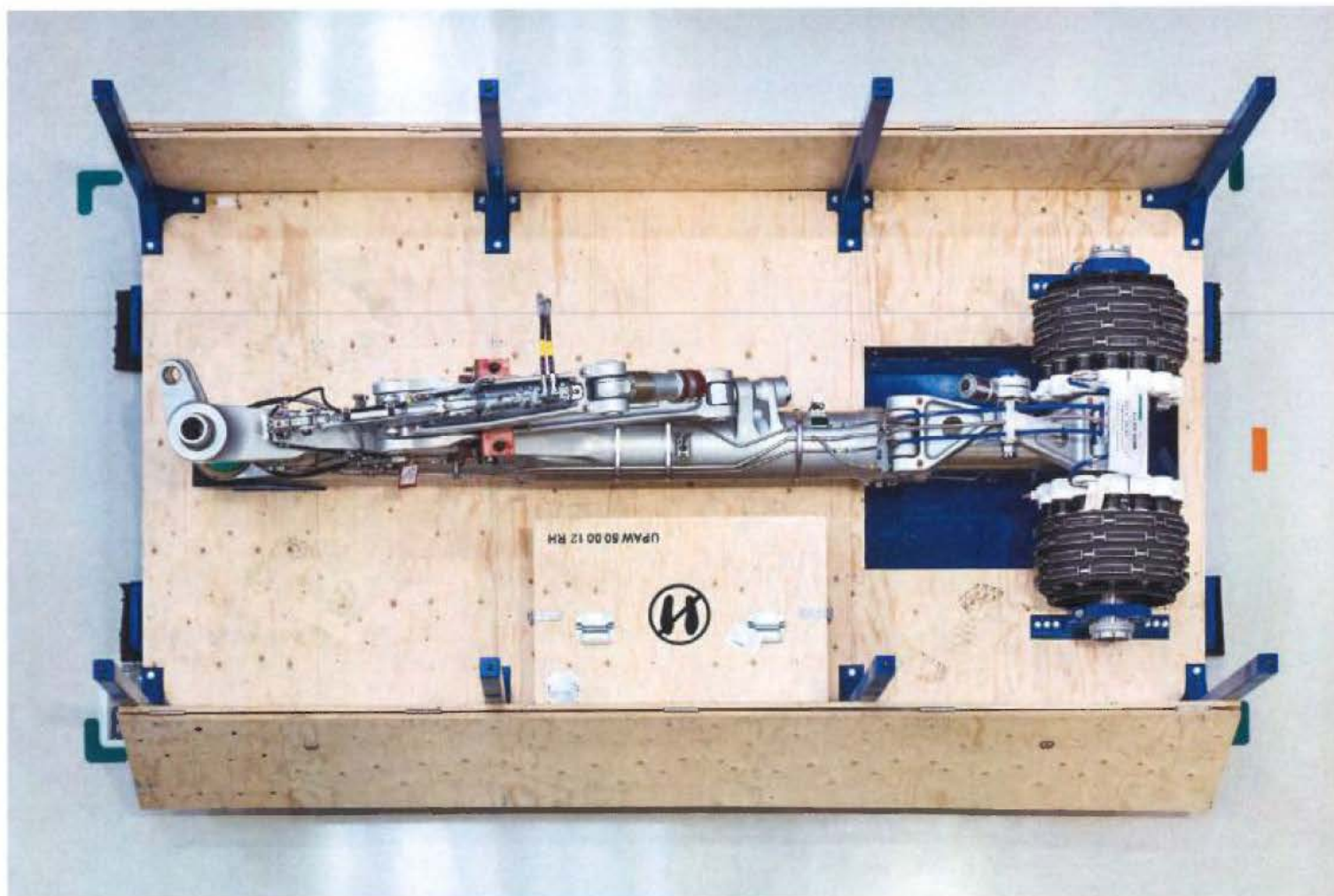


Each of the wings weighs 4.5 tons. Here, they are attached to the fuselage with approximately 1,200 rivets per side.

Christopher Payne for The New York Times

Alabama has paid handsomely for its factories. The state's industrial revolution began in 1993 when a new governor, Jim Folsom, outbid other states for the Mercedes-Benz plant. (To land the deal, Folsom also agreed to remove a Confederate battle flag from the state capitol.) Airbus, the most recent arrival, got \$158.5 million in state and local benefits, including a

school at Brookley where the state trains potential Airbus employees at public expense. Of the 915 workers to be enrolled in the program, Airbus has hired 231.



Part of the landing gear for the A321. Christopher Payne for The New York Times



A look inside a main landing-gear wheel well. At this station, the aircraft is fitted with the vertical and horizontal stabilizers and the tail cone. This is also where the landing-gear doors, the radar and the navigation antenna are installed.

Christopher Payne for The New York Times

Many of the new employees had experience working on airplanes, either in the military or in the private sector. But they still underwent long months of training, often including stints at other Airbus factories. Megan Large was working behind the check-in counter at the Mobile Regional Airport when she landed a job at Airbus. She spent a month in Hamburg and another month at the Airbus factory in Tianjin, China, before starting a job on the team that unpacks parts and moves planes around the factory floor.



Working on an emergency exit as the interior of the A321 gets closer to completion.

Christopher Payne for The New York Times

It helps that in Alabama, labor is cheap. Airbus set a goal that building planes in the United States would not cost a penny more than building in Europe. It is expensive to ship parts from Hamburg, but because the Mobile workers are not unionized, Airbus can hire fewer of them and pay them lower wages. According to The Seattle Times, the starting rate at the Airbus plant, about \$16.50 per hour, is comparable to the starting wages at Boeing's passenger-plane plant in Renton, Wash. But the Airbus pay scale tops out at \$23 an hour, while experienced Boeing workers can earn \$45.



Inside the unfinished cockpit of the A321, which utilizes fly-by-wire controls.

Christopher Payne for The New York Times

That could change in years to come, but for now, organized labor has yet to gain a foothold. The International Association of Machinists and Aerospace Workers, which represents Boeing's workers in Renton, still rents a billboard outside the Airbus plant, but that's about it. The decline of American manufacturing has left a large pool of experienced workers who are eager to find new jobs and are more grateful than their European counterparts. "It baffles our European colleagues to see employees so proud of what they're doing — and so excited," said Allan McArtor, chairman of Airbus Americas.



Christopher Payne for The New York Times
Mounting a V2500 engine from Pratt & Whitney.



Each V2500 engine weighs approximately 5,250 pounds and generates 24,000 to 33,000 pounds of thrust at take off. Christopher Payne for The New York Times

Almost a third of American factory workers now hold four-year college degrees, a trend that reflects the increasingly cerebral nature of the work. At the Airbus factory, few end the day with dirty hands or tired muscles. Even the physical work requires care more than force; it's in the fingers, not the shoulders. The final assembly-line hangar at the heart of the Airbus campus in Mobile is flooded with light and eerily quiet. When I visited in March, I could hear a worker whistling all the way from the other side of the vast hall.



When the aircraft is nearly complete, it leaves the assembly hangar and is taken into the adjacent paint-shop hangar, run by MAAS Aviation, an Irish company. Times

Christopher Payne for The New York



Christopher Payne for The New York Times
Painting the A321.

Airbus has no doubt that the Mobile plant has earned the company some allies in Congress. “It’s been night and day how we’re received on Capitol Hill,” McArtor said. “The attitude started changing immediately.” Airbus executives also hope U.S.-based airlines will be more inclined to buy planes made in Mobile. The Airbus 320 and its variants have outsold the Boeing 737 in nine of the last 10 years, but Airbus still lags behind Boeing in the American market. A business consultant told Airbus executives that foreign automakers’ sales had increased after they started building factories here, although no one was exactly sure why. (Americans like to say that they prefer to buy products made in the United States as opposed to foreign-made goods, but there is little evidence that this stated preference actually influences their behavior.) Moreover, it does not follow that airline executives would betray a similar bias. But as McArtor notes, “It doesn’t have to move that market needle very much to have totally paid for the entire investment in Mobile.”



The completed A321, in the gauging canopy, where its fuel tanks are filled and tested. After a few more rounds of testing, its title will be transferred to American Airlines.

Christopher Payne for The New York Times

Alabama, for its part, hopes the Airbus factory is the start of something bigger. In China, where Airbus began production about a half-decade ahead of the United States, a factory now makes the wings, too. If production in Mobile continues to grow, it could become more efficient to bring more of the process to the United States. About 20 Airbus suppliers have opened offices in Mobile; among them, the great success story is MAAS Aviation, an Irish company that paints each new Airbus plane and has expanded to paint for other aviation clients. The company, which now has 55 employees in Alabama, focuses on hiring people from the Mobile area who have never painted airplanes before. The reason: it wants workers with local roots who will be less likely to take their skills to another city. And it wants them not to have been trained by American companies. “American workers expect things to go wrong and then they fix it,” said Freddie Guinness, 25, who moved to

Mobile from Ireland to manage the new facility. "We want it to go right the first time."



Take a 360° tour of the factory in Mobile, Ala, where Airbus produces its A320 family of aircrafts. By CHRIS CARMICHAEL, NIKO KOPPEL and JOSHUA THOMAS on May 3, 2017. Photo by Christopher Payne for The New York Times. Technology by Samsung. [Watch in Times Video »](#)

Embed

Binyamin Appelbaum is a Washington correspondent covering economic policy for The Times.

Christopher Payne is a photographer and former architect. He is the author of several books, including "New York's Forgotten Substations," "Asylum: Inside the Closed World of State Mental Hospitals" and "Making Steinway."

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EXHIBIT 17

<https://www.thetimes.co.uk/article/airbus-has-a-warning-for-post-brexit-britain-as-it-expands-its-plant-in-alabama-j6d9nklz>

Airbus has a warning for post-Brexit Britain as it expands its plant in Alabama

Plans for the aerospace giant's factory in Mobile could teach its British base a salutary lesson

Robert Lea, Industrial Editor, Mobile, Alabama

May 29 2017, 12:01am, The Times

The Airbus final assembly line in Mobile, Alabama, builds four A321s a month, but its management has plans to double that, taking on Boeing on its rival's home turf

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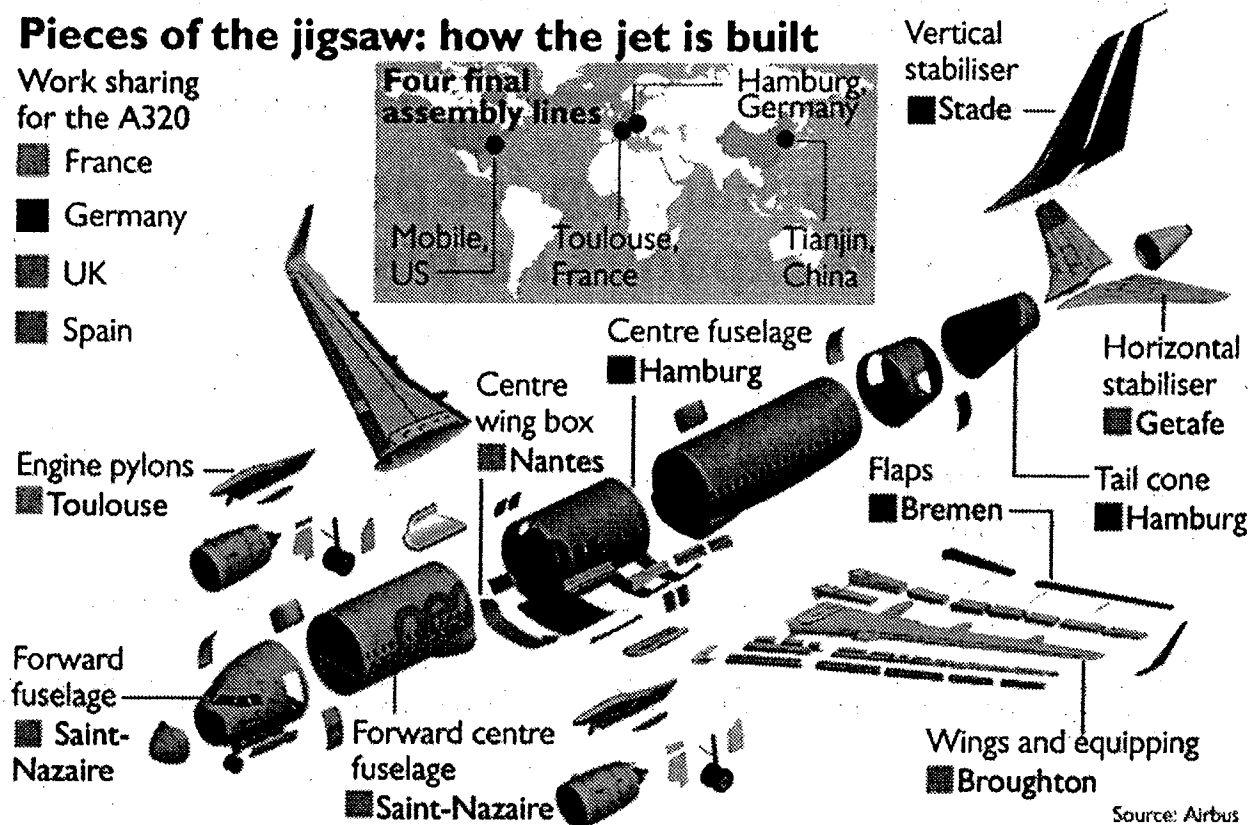
Deep in the American South is an aircraft factory that presents both a lesson and a warning to one of Britain's largest industrial employers in a post-Brexit world.

The state-of-the-art facility is the Airbus final assembly line in Mobile, Alabama. Now in its second year of production, it is making the 235-seat A321 single-aisle, short-haul aircraft beloved of America's airline giants and their budget rivals. The factory is stepping up its efforts to produce four aircraft a month.

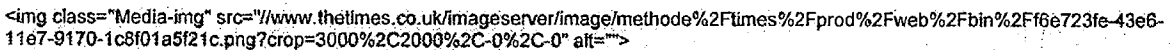
Pieces of the jigsaw: how the jet is built

Work sharing
for the A320

- France
- Germany
- UK
- Spain



Source: Airbus



More significantly than that, perhaps, Airbus Americas has lodged a business case with headquarters in Toulouse, France, to increase the production rate toward the factory's capacity of eight a month and potentially to introduce the manufacturing of key components, such as the wings it is sourcing from the Airbus UK factory at Broughton in north Wales.

The former US Air Force base housing the Mobile plant has plenty of space into which Airbus can expand. Domestic demand for short-haul aircraft makes the United States Airbus's single most important market. Making the parts there rather than importing them from Europe makes sense.

In the immediate future, however, given that the fuselage, wings, nosecone and tail are all pre-made in Europe and shipped into Mobile's deepwater port — and given the uncertainties of America First Trumpland — Airbus Americas is applying for its facility to become a federal foreign trade zone. That would ensure that as the Mobile plant expands, it can do so unencumbered by the extra costs and time of tariffs and customs barriers that affect other importers.

The lessons are plain for Broughton, which makes the wings for Airbus's A320 and A321 short-haul workhorses, A330 long-haul aircraft, the new, fuel-efficient A350 and the A380 superjumbo.

Broughton assembles the wings from parts made and flown in from Spain, France and Germany and then dispatches them complete to Bremen or Hamburg. Brexit-related tariffs and customs would present a logistical and commercial entanglement of red tape.

If there is no deal for the UK on EU single market access, the advent of free trade zones for Broughton and other industrial sites could be a solution in an uncertain world.

The foreign trade zone in Mobile, meanwhile, could become a catalyst for the transformation of Airbus in the US.

"The business case [for expansion in Mobile] sits in Toulouse," Barry Eccleston, the former Rolls-Royce engineer who is president of Airbus Americas, said. "We are now chomping at the bit to hear of the decision from the mother ship."

That case for more production and whether "major component manufacturing comes to Mobile" would mirror what is happening in China, Airbus's next most important market. Its Tianjin plant builds aircraft for the domestic market and it — and not Broughton — is assembling its own wings.

"The logic of our entry into the US is that 84 per cent of aircraft here are single-aisle aircraft and that the A321neo is the airplane of choice," Mr Eccleston said.

He cited some figures: ten years ago Airbus had 40 per cent of the market; five years ago, when it announced that it was to start manufacturing in the US, market share went to 49 per cent; and now, in production, it stands at 58 per cent.

"Mobile has shown that if you build your airplanes in-country, your market share will go up," Mr Eccleston said. "Presence gets you market share."

That has come at a cost to Boeing, the indigenous in-country competitor that has been fighting a long-running war with Airbus at the World Trade Organisation, accusing it of being nothing but a European state-subsidised job creation programme. When Airbus wanted to begin production in Mobile, Boeing folk questioned whether the southern state had the expertise. That outraged Alabama. The community rallied. One local chain delivering fried chicken fingers ran an advertising campaign: "Give Boeing the finger."

Daryl Taylor, a former Broughton apprentice who is the Mobile facility manager, says he sees no reason for either President Trump or Boeing to get in Airbus's way. "My experience is that people are getting out of the way to make sure it happens for Airbus," he said. "The US is maybe Boeing's backyard, but Alabama is not Boeing's backyard. Alabama has taken Airbus to its heart. For the community around here, this is Airbus's backyard."

Sandy Stimpson, the mayor of Mobile, says Airbus's arrival is transforming the city and has attracted 19 other aerospace companies to the area. "We want to build an aerospace hub," he said. "Getting Airbus to come here is a great generational opportunity."

Expectation is also high at the Mobile Airport Authority, Airbus's landlord. Mark McVay, its director, said: "We have a lot of space to accommodate expansion and when the build-rate increases we would expect them to start manufacturing major components, too."

What happens when the wings fall off?

If not lost in the mists of time, the answer to quite how Britain became Airbus's specialist wing maker is stuck in the fog of 1960s industrial geopolitics and the restructuring of a sector that led to the end of wholly built British aircraft (Robert Lea writes).

The Airbus project was launched by the governments of France, Germany and Britain and soon became a blueprint in how not to do international industrial co-operation.

Component manufacturing was shared throughout Europe. Hawker Siddeley was chosen to make the wings. When the British government withdrew its support for Airbus, the country effectively was relegated to sub-contractor.

In time Hawker Siddeley became British Aerospace and latterly BAE Systems became a 20 per cent shareholder — only for it to then make one of the great corporate misjudgments of all time and sell its stake for less than £2 billion in a company now valued at about £50 billion.

The wings, 60 pairs of them a month, are built in the UK at an assembly plant in Broughton in north Wales on the site of the old RAF Hawarden. It employs 6,000 people, with another 2,000 in the local supply chain. Airbus UK employs another 5,000, notably at its design and engineering facilities near Bristol.

Yet such is the complexity of the wing assembly supply chain that Airbus's outsized wing transporter, the Beluga, is flying in components five times a day to north Wales from Spain, France and Germany. And if you think this is an odd way to run an industrial company, ask the Beluga pilots who find it amusing that they are flying to the extremities of western Europe to an airstrip that weatherwise can be among the most inhospitable in the region.

After being criticised for publicly airing its views on the impact of Brexit, Airbus now keeps its own counsel on what it will mean for the £2 billion it has sunk into facilities at Broughton in the past 15 years.

Nevertheless, the words of Paul Kahn, its UK chief executive, at the height of the referendum debate still resonate. "Would Airbus reconsider future investment in the UK?" he asked, rhetorically, of a decision to leave the EU. "Yes, absolutely."

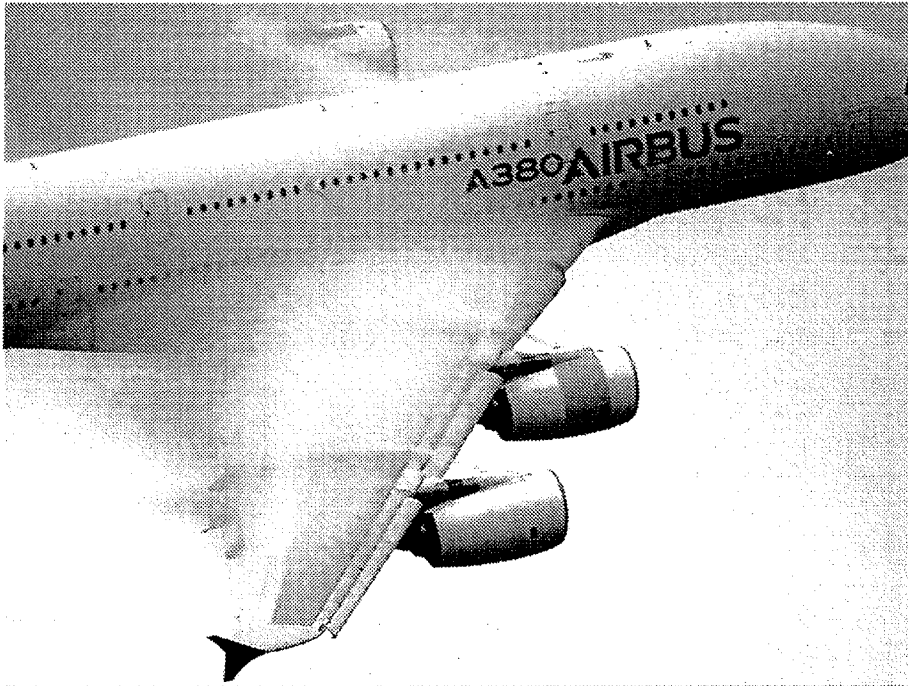
But for the moment they are well and truly on

The rate of British aircraft production continues unabated with the backlog of orders standing at the fifth highest level ever, according to the main trade body for the aerospace industry (Martin Waller writes). There were 406 commercial aircraft deliveries in the first four months of this year, just one fewer than in the same period last year.

ADS, the trade organisation, says the deliveries are worth £8 billion, the highest figure on record for January to April, with £5.5 billion representing 109 wide-bodied aircraft and the rest for single aisle jets. Orders placed so far this year stand at a further £4.6 billion.

EXHIBIT 18

Feds promise to guard Canadian jobs before approving Bombardier-Airbus deal



Vapour forms across the wings of an Airbus A380 as it performs a demonstration flight at the Paris Air Show, Le Bourget airport, north of Paris on June 18, 2015. The federal Liberals have promised to build in safeguards to make sure this week's stunning deal between Bombardier and European rival Airbus helps, and doesn't hurt, Canada's aerospace industry. Airbus wants to buy a majority stake in Bombardier's CSeries commercial planes, whose future has been in question after U.S. officials proposed a hefty 300 per cent import duty on the jet program. THE CANADIAN PRESS/AP, Francois Mori

OTTAWA — The federal Liberals have promised to build in safeguards to make sure this week's stunning deal between Bombardier and European rival Airbus helps — and doesn't hurt — Canada's aerospace industry.

Airbus wants to buy a majority stake in Bombardier's CSeries commercial planes, whose future has been in question after U.S. officials proposed a hefty 300 per cent import duty on the jet program.

The two plane makers hope that by working together, they can skirt the duties by building CSeries planes for U.S. customers in Alabama instead of outside the U.S.

Economic Development Minister Navdeep Bains promised Tuesday that the Trudeau government would require several long-term promises from Airbus before signing off on the deal.

Sources say those undertakings were negotiated in advance by the government and Airbus, and include keeping 100 per cent of those employed at Bombardier's main CSeries assembly plant in Mirabel, Que.

Airbus would also keep and even expand production at the Mirabel plant, which is currently running under capacity, while also adding an assembly line in Alabama to meet demand from U.S. customers.

Canada will also become the company's fifth "home base," and first outside Europe, to allow Canadian industry to tap into the company's supply chain, while the CSeries headquarters will remain in Quebec.

The European company will also take over repayment of the federal government's \$372-million loan to Bombardier for research and development of the 100- to 150-seat commercial planes.

"I oversee this process," Bains said outside the House of Commons, "and I will make sure we get the maximum economic benefit for Canadians."

But one question remains: how long Airbus will be required to maintain employment and production levels under the agreement, and whether Canada will continue to benefit after that period has expired.

Bains said the government was looking for "long-term production guarantees in Canada" that would run "at least a minimum of 20 to 25 years," though an official said that was still to be negotiated.

FINANCIAL POST

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THE CANADIAN PRESS
LEE BERTHIAUME

October 17, 2017
4:13 PM EDT

🕒 Last Updated
October 18, 2017
6:34 AM EDT

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"We think the potential sales opportunity in this segment is up to 6,000 over the next 20 to 25 years," he said.

"So that means there'll be stable, predictable production opportunities in the Mirabel facility ... and that means more jobs, up to 5,000 jobs in that facility."

Peter Glossop, a foreign investment lawyer with Osler, Hoskin and Harcourt, said most government-imposed undertakings run for three years when a foreign company takes over a Canadian entity.

be difficult given its expertise with the CSeries, he said, which could ensure its sustainability over the long run.

"There's lots of embedded know-how in Canada, so just shutting all that down would be quite difficult," Glossop said. "These people know how to build them."

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Tom Bradley: Believe it or not, we regularly make decisions that run counter to our best interests

EXHIBIT 19

AIRBUS & BOMBARDIER

C Series

A Winning Partnership

17 October 2017

• Tom Enders
Chief Executive Officer

• Harald Wilhelm
Chief Financial Officer

AIRBUS

SAFE HARBOUR STATEMENT

DISCLAIMER

This presentation includes forward-looking statements, including in respect of the transaction pursuant to which Airbus would acquire a majority interest in the C Series aircraft program and benefits expected to result from such transaction. Words such as "anticipates", "believes", "expects", "intends", "plans", "projects", "may" and similar expressions are used to identify these forward-looking statements. Examples of forward-looking statements include statements made about strategy, ramp-up and delivery schedules, introduction of new products and services and market expectations, as well as statements regarding future performance and outlook. By their nature, forward-looking statements involve risk and uncertainty because they relate to future events and circumstances and there are many factors that could cause actual results and developments to differ materially from those expressed or implied by these forward-looking statements. These factors include but are not limited to:

- Changes in general economic, political or market conditions, including the cyclical nature of some of Airbus' businesses;
- Significant disruptions in air travel (including as a result of terrorist attacks);
- Ability and timing to obtain regulatory and other approvals for the C Series aircraft program transaction;
- Ability to successfully integrate the C Series aircraft program in collaboration with program partners;
- Ability to realize the expected benefits of the C Series aircraft program transaction;
- Currency exchange rate fluctuations, in particular between the Euro and the U.S. dollar;
- The successful execution of internal performance plans, including cost reduction and productivity efforts;
- Product performance risks, as well as programme development and management risks;
- Customer, supplier and subcontractor performance or contract negotiations, including financing issues;
- Competition and consolidation in the aerospace and defence industry;
- Significant collective bargaining labour disputes;
- The outcome of political and legal processes including the availability of government financing for certain programmes and the size of defence and space procurement budgets;
- Research and development costs in connection with new products;
- Legal, financial and governmental risks related to international transactions; and
- Legal and investigatory proceedings and other economic, political and technological risks and uncertainties.

As a result, Airbus' actual results may differ materially from the plans, goals and expectations set forth in such forward-looking statements. For a discussion of factors that could cause future results to differ from such forward-looking statements, see the Airbus "Registration Document" dated 4 April 2017, including the Risk Factors section. Any forward-looking statement contained in this presentation speaks as of the date of this presentation. Except as required by law, Airbus undertakes no obligation to publicly revise or update any forward-looking statements in light of new information, future events or otherwise.

Airbus cautions that the transaction described in this presentation is subject to certain conditions precedent, including regulatory and other approvals, and at there can be no assurance that such transaction will eventually be implemented, or as to the timing or terms that might be agreed.

A WINNING PARTNERSHIP

A320 Family



C Series



- Airbus and Bombardier enter into a partnership on C Series
- Combination of Airbus' global reach and scale with Bombardier's innovative new aircraft
- Significant long term value creation

AIRBUS

KEY FINANCIAL ASPECTS



C Series development spend almost completed



Acquisition of operational control without any cash contribution at closing



Funding until closing borne by seller



No financial debt at closing



Limited financial exposure after closing



Value creation from synergies

EXHIBIT 20

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<https://www.wsj.com/articles/delta-plans-to-take-bombardier-jets-from-alabama-plant-avoiding-tariffs-1508336994>

BUSINESS

Delta Expects to Buy U.S.-Built CSeries Jets

Airline plans to take Bombardier planes from Alabama plant, avoiding tariffs



Delta Air Lines CEO Ed Bastian, during a ceremonial ground-breaking event for Delta's new facilities at LaGuardia Airport in August. PHOTO: JUSTIN LANE/EUROPEAN PRESSPHOTO AGENCY

By Susan Carey in Atlanta and Doug Cameron in Chicago

Updated Oct. 18, 2017 11:53 a.m. ET

Delta Air Lines Inc. said Wednesday that it intends to take new Bombardier Inc. [BDRBF 6.06% ▲](#) jetliners built at an Airbus SE facility in Alabama, though it didn't provide a timeline for the first delivery.

Bombardier and Airbus this week announced a planned joint venture that would include building some CSeries jets at the European company's plant in Mobile, Ala., in an effort to avoid proposed tariffs levied by U.S. trade officials on the Canadian plane maker.

Delta was due to receive the first of its 75 CSeries jets next spring, and last week Chief Executive Ed Bastian said they could be delayed because of the trade spat between the U.S. and Canada over Bombardier.

Mr. Bastian didn't provide further guidance on timing at an event on Wednesday. Delta is prepared to wait as long as two years for the jets to ensure they are assembled in Mobile and don't attract tariffs, according to people involved in the negotiations.

Airbus builds four of its A320 model jets a month at the Mobile facility, which opened in 2015.

Local officials said they were unaware of the plan to build Bombardier jets there until just before this week's announcement.

Troy Wayman, vice president for economic development at the Mobile Chamber of Commerce, said Airbus would likely have to construct a new facility at the site to assemble the CSeries.

Mr. Wayman said officials could likely agree on a package of incentives for Airbus in less than six months.

Airbus and Bombardier don't expect to complete their planned deal until the second half of next year, and people involved in the talks said it could take more than a year to

construct facilities to assemble CSeries jets in Mobile.

Mr. Bastian said it isn't clear when the Airbus-Bombardier pact would secure regulatory approval or how long it would take to establish a new assembly line in Mobile.

A final decision on whether to expand the Mobile plant hinges on the outcome of the probe by U.S. trade officials. They have proposed tariffs that would potentially quadruple the price of CSeries planes for U.S. buyers after upholding a complaint from Boeing Co. that the Canadian aircraft maker benefited from unfair government subsidies.

A U.S. trade panel is due to rule in February on whether Boeing suffered any harm. The tariffs would kick in if harm is found.

Boeing said that even CSeries jets assembled in Mobile would be subject to tariffs on imported parts. Bombardier and Delta both reject that argument.

"Boeing can make its own decisions," Mr. Bastian said. But it is "hard to see how Boeing is harmed" when it doesn't have a plane in the 100- to 150-seat category.

He said Delta had no role in the planned joint venture between Airbus and Bombardier, which started with talks between executives from the two plane makers at the Paris Air Show in June, according to people involved in the discussions.

"We have a great relationship with Boeing," Mr. Bastian said, adding that the trade spat wouldn't prevent Delta from buying more jets from the U.S. aerospace company.

Delta is studying Airbus and Boeing jetliners to replace older models from both plane makers. Mr. Bastian expects a decision over the next six to 12 months.

He said both the Airbus A320neo family and the Boeing 737 Max products are strong. He declined to say how many planes will be ordered.

Mr. Bastian said the CSeries jets will help Delta bring some flights now operated by commuter airline partners in-house, and build up routes from its smaller hubs, including New York's La Guardia Airport.

He said Delta wasn't a party to the Airbus-Bombardier deal reached earlier this week, and said he expects a full briefing by the parties in the coming days.

Write to Susan Carey at susan.carey@wsj.com and Doug Cameron at doug.cameron@wsj.com

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EXHIBIT 21

From war to partner: Airbus and the CSeries

leehamnews.com/2017/10/18/war-partner-airbus-cseries/

10/18/2017

Oct. 18, 2017, © Leeham Co.: It was the annual media day in 2010 that Airbus declared war on the Bombardier CSeries.

Lufthansa Group in 2009 was the launch customer of the CSeries with an order for 30 CS100s and options for 30 more.

Bombardier had won a major order from Republic Airways Holdings, which then owned Frontier Airlines, an exclusive A319/320 operator. Republic ordered 40 CS300s and optioned 40 more. It was this order that spurred Airbus' wrath. It was this order that would push Airbus into launching the re-engined A320neo family.



John Leahy, Airbus COO-customers, and Tom Williams, then EVP of programs, declared to the assembled international media that Airbus would aggressively compete against Bombardier.

Now, seven years later, Airbus and Bombardier are partners.

Aggressive competition

"We will not do with Bombardier what Boeing did with Airbus," Leahy declared. Boeing initially ignored Airbus, allowing it to grow. Airbus, Leahy said, would not allow Bombardier to do the same with the CSeries.

Williams declared Airbus would not let Bombardier establish a "beachhead" with the CSeries against the A319. A re-engined A320 family would destroy the business case for the CSeries, Williams said.

Airbus was true to its word. It dropped the price on the A320 in head-to-head competitions, offering airlines a larger airplane for the same price as the CS300. Bombardier was blocked from several deals.

Boeing, on the other hand, made the decision to ignore Bombardier until BBD nearly swooped in to land a big order from United Airlines in early 2016. Boeing sold the 737-700 to UAL for a reported price of around \$24m. Then Bombardier won a deal with Delta Air Lines the following April. Boeing filed its trade complaint a year later.

The battle was on. And Airbus swooped in to acquire a majority stake in the CSeries program for C\$1.

Cute airplane

Leahy today told LNC he always thought the CSeries was a "cute little airplane."

"I always said it was a cute little airplane, and it is," Leahy said. "I always knew that going up against Boeing and Airbus and that they didn't have a support network, they didn't have much of a commercial organization, it was going to be difficult to really get inroads into the market.

"We were competing against it for years, rather successfully," he said. "I think so did Boeing, so I am shocked beyond belief that Boeing was trying to kick a dog when he was down. If Boeing had totally ignored them, they probably would have rolled over and died. Why they had to go pressing the Trump Administration for 300% tariffs is beyond the pale. I think a lot of reports that that forced them into our hands are probably true."

The future under Airbus

As Boeing and Airbus develop the successors to the 737 and A320, the trend toward up-gauging suggests the new airplanes may start at 170 seats and go up. Program launch of these aircraft will almost certainly be no later than 2025.

Does this mean Airbus, which by then may own 100% of the CSeries program, will develop a CS500 to provide a family of airplanes from 100 to 150 seats?

Leahy, who retires by the end of this year, wouldn't say.

"Two things you've got to remember. Until this closes [in 2018], we are not working with them, so I don't want to get into how we're going to change product strategy going forward or how we're going to work on deals together," he said. "We're blatantly *not* going to discussing product strategy or working on deals together until the deal closes."

After the deal closes, then Bombardier and Airbus will sit down and discuss product strategy, Leahy said.

Tariffs

Boeing claims that even if the CSeries is built in Mobile, it will be subject to tariffs if the US government affirms preliminary findings. Leahy disagrees.

"I cannot imagine that you would an airplane that is built with substantially more than 50% US parts, built in Alabama by US workers would somehow be classified as a foreign product because Boeing would like to see that," he said. "As an American I would find that shocking. I can't imagine that would happen."

The Boeing attack on Bombardier has been roundly criticized for the potential cost to Boeing. Canada threatened to exclude Boeing from a fighter acquisition. The United Kingdom vowed retaliation. Conventional wisdom believes Delta won't buy Boeing in its current RFP between the A321neo and the MAX 9/10 (Delta says it will be a fair competition).

One analyst *LNC* has talked to says Boeing doesn't care about the present cost. Leahy agrees.

"Whatever it costs now, it's worth it not to have competition," Leahy said of Boeing. "That, I think, is an admission of a weak product line and a weak commercial organization that they say we just can't afford that competition. Competition is too costly for us. We need to find a way to just block competition."

EXHIBIT 22

Airbus Pledges to Put C Series Ahead of A319 in Sales Push

By **Benjamin DKatz**

October 18, 2017, 12:11 PM EDT

Updated on October 18, 2017, 3:47 PM EDT

- CEO Enders says Bombardier model will supplant slow seller
- Canadian plane's technology set to feature in future projects

Airbus SE <<https://www.bloomberg.com/quote/AIR:FP>> will prioritize sales of Bombardier Inc.'s C Series jet over the smallest version of its own single-aisle plane while seeking to adapt the model's key elements for future projects following the surprise tie-up between the companies, according to Chief Executive Officer Tom Enders.

Airbus will "definitely" push the Canadian model's largest variant, the CS300, at the expense of the similarly sized A319neo, Enders said in an interview Wednesday. The European planemaker hasn't announced a new airline customer for the jet in five years, since Bombardier's aircraft emerged as a serious rival.

"That was the last time we sold the plane," he said. "That tells you something about the competition between the A319 and the C Series."

Airbus this week agreed to take a 50.01 percent stake in the Bombardier program in a deal that will put the might of its global sales machine behind the North American model. Enders said he's confident the surprise deal will make both the CS300 and the smaller CS100 a "roaring success in the market."

The A319neo, as the new-engine option version of the model is known, has garnered just 51 orders. Latin American operator Avianca is due to take 20 planes after slimming down an original deal in preference for larger A320neos, with Denver-based [Frontier Airlines](https://www.bloomberg.com/quote/FRNTQ:US) <<https://www.bloomberg.com/quote/FRNTQ:US>> in line for 18 and government or executive buyers taking three. The purchasers of the other 10 jets are unidentified.

Technology Transfer

The smallest A320-series Airbus, the A318, has already fallen by the wayside, with the last of about 80 planes sold in 2015 and the model not on offer in upgraded Neo form. The C Series has amassed 360 firm orders, around two-thirds of them for the CS300.

Enders, speaking at the EU Aeronautics conference in Brussels, said Airbus plans to tap cutting-edge C Series technology in areas such as the cockpit, avionics and composite materials for future aircraft models.

"That has always been Airbus's strategy, to look for as much commonality between the various aircraft as possible," he said. "There's a lot I think we can do. The C Series is a state-of-the-art aircraft in every aspect, one of the most modern generation aircraft in terms of cockpit, in terms of material."

The Airbus-Bombardier deal could take six to 12 months "or even longer" to be completed, providing "plenty of time to figure out what we want to do," the CEO said.

Enders described U.S. tariffs imposed on the C Series after a complaint from [Boeing Co.](https://www.bloomberg.com/quote/BA:US) <<https://www.bloomberg.com/quote/BA:US>> as "ludicrous." Airbus is planning to open a production line for the plane at its own plant in Mobile, Alabama, in a move that may help Bombardier escape the 300 percent duty imposed on planes bound for the American market.

[Delta Air Lines Inc.](https://www.bloomberg.com/quote/DAL:US) <<https://www.bloomberg.com/quote/DAL:US>>, the biggest buyer of the C Series, expects its jets to come from the Alabama assembly line, Chief Executive Officer Ed Bastian told reporters Wednesday in Atlanta. He repeated his vow not to pay the tariffs and said he

11/6/2017

Airbus Pledges to Put C Series Ahead of A319 in Sales Push - Bloomberg

hoped the Airbus-Bombardier deal would “minimize” some of the political rhetoric around the duties.

— *With assistance by Michael Sasso, and Frederic Tomesco*

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EXHIBIT 23

**Bombardier Conference Call for Investors and Financial Analysis (October 16, 2017):
Transcribed Excerpts**

- “{Airbus} brings additional resources, such as an Alabama manufacturing center to serve U.S. customers. Aircraft produced at this facility will not be subject to duties under the pending U.S. investigation.” Bombardier Conference Call for Investors and Financial Analysis (Oct. 16, 2017) at mins. 3:36-3:51 (Alain Bellemare, CEO of Bombardier).
- “We can continue executing our 2020 plan while we fully participate in the C Series value creation. This partnership supports our 2020 objectives by growing our confidence in our break-even scenario for the C Series. It also removes uncertainties related to the U.S. market access.” Bombardier Conference Call for Investors and Financial Analysis (Oct. 16, 2017) at mins. 5:35-5:53 (John Di Bert, CFO of Bombardier).

Source: <http://edge.media-server.com/m6/p/63uws6wp/lan/en>.

EXHIBIT 24

Airbus begins production of first U.S.-built A320 in Mobile



All aircraft delivered from Mobile thus far have been A321 aircraft

8 MAY 2017

PRESS RELEASE(PRESSCENTRE/PRESSRELEASES/NEWS-CATEGORY/PRESS_RELEASE/)

The Airbus U.S. Manufacturing Facility in Mobile, Alabama, has received the major component assemblies for the first A320 that will be produced in the U.S. The 27 aircraft delivered from the facility thus far have been A321s.

This marks another important milestone for the manufacturing facility, which began production in July 2015 and is equipped to build three members of the A320 Family: A319, A320 and A321.

This A320 is destined to be delivered to Spirit Airlines this summer.

Tags : AMERICAS(PRESSCENTRE/PRESSRELEASES/NEWS-CATEGORY/AMERICAS-2/)

AIRBUS IN THE US(PRESSCENTRE/PRESSRELEASES/NEWS-CATEGORY/AIRBUS_IN_THE_US-1/)

ALABAMA(PRESSCENTRE/PRESSRELEASES/NEWS-CATEGORY/ALABAMA-1/)

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Related photos

EXHIBIT 5



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#DEALS

OCTOBER 1, 2013 / 8:39 AM / 4 YEARS AGO

Republic Airways to sell Frontier for \$145 million

Reuters Staff

(Reuters) - Republic Airways Holdings Inc [RJET.O](#) said on Tuesday it would sell Frontier Airlines to private equity firm Indigo Partners LLC in a deal valued at about \$145 million.

The agreement ends a two-year-long search by Indianapolis-based Republic to unload Frontier, which it bought out of bankruptcy in 2009.

Phoenix-based Indigo will pay \$36 million in cash for the equity of Frontier Holdings and assume Frontier's debt.

Republic, which provides regional service for bigger carriers such as Delta Air Lines Inc ([DAL.N](#)) and United Continental Holdings Inc ([UAL.N](#)), has been restructuring Frontier over the past year to lower its costs.

Delta Air Lines Inc

DAL.N NEW YORK STOCK EXCHANGE

56.03
-0.19 (-0.34%)



Indigo is led by co-founder William Franke, who was chairman of low-cost carrier Spirit Airlines Inc (SAVE.O).

“We endorse and will support continued efforts to build Frontier into a leading nationwide ultra-low cost carrier,” Franke said in a statement. “As airline fares continue to move up, passengers need affordable travel alternatives.”

The deal is subject to various approvals and is expected to close in December, Republic said.

Shares of Republic closed at \$11.89 on the Nasdaq on Monday.

Reporting by Rohit T.K. in Bangalore and Karen Jacobs in Atlanta; Editing by Jeffrey Benkoe

Our Standards: The Thomson Reuters Trust Principles.

EXHIBIT 6

**BEFORE THE
WORLD TRADE ORGANIZATION**

***United States – Investigation of the International Trade
Commission in Softwood Lumber from Canada***

WT/DS277

**ANSWERS OF THE UNITED STATES
TO THE PANEL'S QUESTIONS
IN CONNECTION WITH THE FIRST SUBSTANTIVE MEETING**

September 24, 2003

Question 16: *Could the United States please address its understanding of the "special care" requirement in Article 3.8 of the AD Agreement and Article 15.8 of the SCM Agreement? What elements does the United States consider could demonstrate the appropriate special care? Could the United States indicate to the Panel where, in its view, the USITC determination demonstrates the requisite special care?*

1. The covered Agreements do not state what constitutes "special care;" nor has any panel explicitly addressed this provision. The covered Agreements do not support Canada's attempt to interpret "special care" as a special review standard for either the Panel or the investigating authority. The United States understands the "special care" language to be a recognition that projections about the future must be based on present and past facts. While a threat analysis is a future-oriented analysis, it cannot be based on allegation, conjecture or remote possibility; rather it must be based on the facts.¹

2. Article 3.8 of the Antidumping Agreement and Article 15.8 of the SCM Agreement are exhortations to be mindful of the future-oriented nature of a threat analysis as the evidence is reviewed. A threat determination necessarily uses facts from the present and the past to form a conclusion about the future.² Projections necessarily are based on extrapolations from existing data.³ Indeed, Article 3.7 requires that projections be based on facts. Article 3.8 simply reinforces this point by describing the approach to be taken in reviewing the facts.

¹ Article 3.7 of the Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 (the Antidumping Agreement) and Article 15.7 of the Agreement on Subsidies and Countervailing Measures (the SCM Agreement).

² See *United States Safeguard Measures on Imports of Fresh, Chilled or Frozen Lamb Meat from New Zealand and Australia*, Appellate Body Report, WT/DS177/AB/R, WT/DS178/AB/R, adopted 16 May 2001, para. 136 ("US Lamb Meat"); *United States Transitional Safeguard Measure on Combed Cotton Yarn from Pakistan*, Appellate Body Report, WT/DS192/AB/R, adopted 5 November 2001, para. 77, n.50 ("US Cotton Yarn"). Specifically, the Appellate Body in *US Lamb Meat* stated:

As facts, by their very nature, pertain to the present and the past, the occurrence of future events can never be definitely proven by facts. There is, therefore, a tension between a future oriented "threat" analysis, which, ultimately, calls for a degree of "conjecture" about the likelihood of a future event, and the need for a fact based determination. Unavoidably, this tension must be resolved through the use of facts from the present and the past to justify the conclusion about the future, namely that serious injury is "clearly imminent." Thus, a fact based evaluation, under Article 4.2(a) of the *Agreement on Safeguards*, must provide the basis for a projection that there is a high degree of likelihood of serious injury to the domestic industry in the very near future.

³ See *Mexico Anti Dumping Investigation of High Fructose Corn Syrup (Mexico HFCS) from the United States*, Appellate Body Report, WT/DS132/AB/R, adopted 21 November 2001, paras. 83 and 85 ("Mexico HFCS"); *US Cotton Yarn*, AB Report, para. 77; *US Lamb Meat*, AB Report, para. 136; *United States Definitive Safeguard Measures on Imports of Certain Steel Products*, WT/DS248/R, WT/DS249/R, WT/DS251/R, WT/DS252/R, WT/DS253/R, WT/DS254/R, WT/DS258/R, WT/DS259/R, Panel Report, circulated 11 July 2003, para. 10.173, n. 5032 ("US Steel Safeguards").

3. It is evident in the ITC's Report that the Commission based its threat determination on consideration of all of the facts. The ITC based its prospective analysis on objective facts and rejected assertions and opinions not based on sufficient factual evidence.⁴ The Commission's reliance on a thorough factual record and its careful analysis of that record demonstrate its compliance with the special care language in the covered Agreements. Canada, on the other hand, has urged that the ITC should have based its findings on assertions and opinion, which are favorable to Canada's interests, but are not sufficiently supported by the evidence.⁵

4. The special care taken by the ITC is demonstrated in the detailed analysis and extensive documentation including past and present data provided to support each finding throughout the ITC's opinion, from its conditions of competition section on pages 21-27 of the ITC Report to the present injury analysis on pages 31-37 of the ITC Report to the threat of injury analysis on pages 37-44 of the ITC Report.

Question 17: *Article 3.8 of the AD Agreement and Article 15.8 of the SCM Agreement provide that:*

"with respect to cases where injury is threatened by dumped [subsidized] imports, the application of anti-dumping [countervailing] measures shall be considered and decided with special care".

*Could the United States address the implications of the phrase "the application of ... measures" in terms of the timing of the obligations provided for in this provision? Is the United States of the view that the "special care" requirement affects or changes the obligation in Articles 3.1 of the AD Agreement and 15.1 of the SCM Agreement that a determination of injury "shall be based on positive evidence and involve an **objective examination**... ". If so, how?*

5. The "special care" language in Article 3.8 of the Antidumping Agreement and Article 15.8 of the SCM Agreement supplement rather than alter or modify the obligations in Article 3.1 and Article 15.1 of the respective Agreements that a determination of injury "shall be based on positive evidence and involve an objective examination."⁶ As discussed in response to question

⁴ See *US Lamb Meat*, Panel Report, para. 7.129:

... the requirement to base a threat determination on objective facts, and the rejection of "assertions," "opinions" and "conclusions" that are not based on sufficient factual evidence, it is possible to draw at least some inferences on how to conduct a threat analysis. These elements suggest (i) that a threat determination needs to be based on an analysis which takes objective and verifiable data from the recent past ... as a starting point so as to avoid basing a determination on *allegation, conjecture, or remote possibility*. ...

⁵ See, e.g., Canada's First Written Submission, paras. 7, 8, and 120.

⁶ The Appellate Body in *Thailand H Beams* provided some guidance on the relationship between Article 3.1 of the Antidumping Agreement and consideration of the evidence for factors listed in the threat provision, Article 3.7. The Appellate Body stated:

107. ... An injury determination conducted pursuant to the provisions of Article 3 of the *Anti Dumping*

EXHIBIT 7

Bombardier's all-new CS100 Aircraft Awarded Transport Canada Type Certification

December 18, 2015 Montréal Commercial Aircraft, Press Release



1 of 3 : Photo credit: Patrick Cardinal

[Low Resolution \(113 KB\)](#) [High Resolution \(7 MB\)](#)



2 of 3 : Photo credit: Patrick Cardinal

[Low Resolution \(105 KB\)](#) [High Resolution \(7 MB\)](#)



3 of 3 : Photo credit: Patrick Cardinal

[Low Resolution \(47 KB\)](#) [High Resolution \(996 KB\)](#)

- Delivery to first operator SWISS on track for Q2 2016; CS300 aircraft certification expected within six months

Bombardier Commercial Aircraft announced today that its all-new CS100 aircraft received its Transport Canada Type Certification following a comprehensive and rigorous testing program, which included more than 3,000 flight test hours, the validation of thousands of test results and the authentication of extensive design and performance data. Obtaining the Type Certificate for the CS100 aircraft paves the way for the delivery and entry into service of the CS100 aircraft with first operator SWISS in Q2 2016.

“This is an historic moment for Bombardier. Years of dedicated efforts and collaboration culminate today in a very proud moment for many as we celebrate the CS100 aircraft’s Transport Canada Type Certification. I heartily congratulate our teams for their commitment to developing, testing and certifying the CS100 aircraft,” said Fred Cromer, President, Bombardier Commercial Aircraft. “Bringing to market the only new family of aircraft developed for the 100- to 150- seat market segment in close to 30 years is a standout accomplishment -- the C Series aircraft is now well on its way to opening up new opportunities for operators, while delivering unrivalled economic advantages, performance, and environmental credentials. It’s the new reality for the single-aisle market.”

Design Approval Designees (DADs), engineers authorized to act on behalf of the Minister of Transport to approve aeronautical design and make findings of compliance, worked closely with Transport Canada over the last five years planning, testing, and reviewing thousands of technical drawings and documents that ultimately define the C Series aircraft and allow it to be built against this design definition. Once Bombardier demonstrated that the C Series aircraft design fully complied with the safety requirements mandated by Transport Canada, the aircraft was issued its Type Certificate.

“Our highly skilled Flight Test, Ground Test and Engineering teams, along with our suppliers, have successfully designed, developed, tested and certified this best-in-class aircraft -- introducing multiple new technologies resulting in the aircraft exceeding the performance targets we committed at program launch,” said François Caza, Vice President, Product Development and Chief Engineer, Bombardier Inc. and Head of Bombardier’s Design Approval Organization. “I applaud our employees’ innovation,

dedication and engagement on achieving this key milestone. I am confident we will execute on our next commitments with the same diligence and excellence.”

Bombardier's CS300 aircraft, the larger model, is on track to obtain its Type Certificate within the next six months as planned. Bombardier will continue to work with Transport Canada to validate the CS100 aircraft's training syllabus.

“Today we salute everyone that has dedicated years of service and commitment to developing the C Series aircraft and I wish to personally thank all our customers, partners, suppliers and more than 2,300 employees at various Bombardier facilities for their contributions to the program,” said Rob Dewar, Vice President, C Series Aircraft Program, Bombardier Commercial Aircraft. “While we shift this same focus and dedication towards ensuring a flawless entry-into-service alongside first operator SWISS -- with first delivery planned in the second quarter of 2016 -- we also look forward to continuing demo flights to showcase this magnificent aircraft to airlines and other interested operators around the world.”

About C Series Aircraft

The C Series family of aircraft, representing the fusion of performance and technology, is a 100 per cent all-new design that offers operators potential savings of between US\$ 7.5 to 12 million per aircraft.

By focusing on the 100- to 150-seat market segment, Bombardier has designed the C Series aircraft to deliver unparalleled economic advantage to operators and to open up new opportunities for single-aisle aircraft operations.

All noise performance testing on the CS100 aircraft has been completed and data confirms it is the quietest in-production commercial jet in its class. The aircraft's noise performance and its outstanding short-field capability make it ideal for varied types of operations. The C Series aircraft's maximum range has also been confirmed to be up to 3,300 NM (6,112 km), some 350 NM (648 km) more than originally targeted.

The aircraft is delivering more than a 20 per cent fuel burn advantage compared to in-production aircraft, and a greater than 10 per cent advantage compared to re-engined aircraft. The C Series aircraft will also emit 50 per cent fewer NO_x emissions than the CAEP 6* NO_x emission standards.

In addition to delivering best-in-class economics with the C Series aircraft, Bombardier has placed considerable emphasis on cabin design to ensure an excellent passenger experience. The C Series aircraft's larger seats, overhead bins and windows create a widebody feel that offers passengers unparalleled comfort.

The CS100 and CS300 aircraft have over 95 per cent parts commonality, as well as the same type rating. The groundbreaking Pratt & Whitney PurePower® PW1500G engine, combined with advanced aerodynamics, delivers reduced fuel burn, noise and emissions, increasing the aircraft's environmental and social compatibility.

Bombardier has booked orders and commitments for 603 C Series aircraft, which include firm orders for 243.

About Bombardier

Bombardier is the world's leading manufacturer of both planes and trains. Looking far ahead while delivering today, Bombardier is evolving mobility worldwide by answering the call for more efficient, sustainable and enjoyable transportation everywhere. Our vehicles, services and, most of all, our employees are what make us a global leader in transportation.

Bombardier is headquartered in Montréal, Canada. Our shares are traded on the Toronto Stock Exchange (BBD) and we are listed on the Dow Jones Sustainability North America Index. In the fiscal year ended December 31, 2014, we posted revenues of \$20.1 billion. News and information are available at bombardier.com or follow us on Twitter [@Bombardier](https://twitter.com/Bombardier).

Notes to Editors

Photos of the CS100 aircraft are posted with this press release at www.bombardier.com.

For more information on the C Series aircraft, visit <http://news.commercialaircraft.bombardier.com>.

Follow [@BBD_Aircraft](https://twitter.com/BBD_Aircraft) on Twitter to receive the latest updates from Bombardier Commercial Aircraft.

To receive our press releases, please visit the [RSS Feed](#) section of Bombardier's website.

* Committee on Aviation Environmental Protection

Bombardier, CS100, CS300, C Series, and The Evolution of Mobility are trademarks of Bombardier Inc. or its subsidiaries.

EXHIBIT 8

Quebec Touts Airbus Sales Power, Jobs Saved in C Series Deal

By **Sandrine Rastello**

October 17, 2017 3:14 PM

-
- Province's stake in venture shrinks while Airbus adds no cash
 - 'We looked at all options,' Economy Minister Anglade says
-

The deal that ceded control of Bombardier Inc.'s C Series jet program to [Airbus SE](https://www.bloomberg.com/quote/AIR:FP) <<https://www.bloomberg.com/quote/AIR:FP>> was the best option to save jobs in Quebec and ensure the industry's future in the Canadian province, Economy Minister Dominique Anglade said.

The entry of the European plane maker brings in a "selling firepower" that Bombardier doesn't have, opening up markets for the jetliner from Europe to Asia to Africa, the provincial minister said. It also boosts confidence in the program and helps "completely change the game," she said.

"All that you could imagine was considered," Anglade said in a phone interview Tuesday, adding the government was involved in every discussion. "At the end of the day, we chose the option that guaranteed jobs in the long term in Quebec, ensured growth of the sector in Quebec, and ensured the durability of the C series program."

Quebec held 49.5 percent of the C Series after investing \$1 billion in the fledgling program last year, only to see the stake decline to 19 percent in a deal where Airbus takes a majority stake for no cash. The agreement, which also cuts Bombardier's

share, seeks to preserve 2,000 jobs at a plant outside of Montreal until 2041, even as Airbus adds another final assembly line at its factory in Mobile, Alabama.

Opposition Outcry

While silent at first, opposition parties ramped up criticism Tuesday, accusing the government of selling a crown jewel and getting ripped off. Francois Legault, the chief of the Coalition Avenir Quebec said the government's investment amounted to spending C\$650,000 (\$518,000) per job.

"This is not a good deal, that's not how you can help Quebec's economy," he said in remarks broadcast on RDI network.

The head of Parti Quebecois, Jean-Francois Lisee, tweeted that the government should have invested in Bombardier itself rather than the C series.

Quebec Premier Philippe Couillard defended the deal, which he said does more for the plane than putting more money into it because the program really needed a strategic partner.

"We would have loved for Bombardier to become as big as Boeing and Airbus, but in practice that couldn't happen, it was impossible," he said. "We had to think about workers above all, as well as the Montreal aeronautic sector."

EXHIBIT 9

Bombardier unions expect protracted C Series dispute

The Globe and Mail (BC Edition) · 14 Dec 2017 · JULIEN ARSENAULT

Labour officials say the chances the United States will lower or cancel import duties applied in a preliminary ruling are slim



The largest unions in Canada and Britain anticipate Bombardier Inc. and Boeing Co. are in for a protracted trade battle as they prepare for the U.S. Commerce Department to confirm massive duties on imports of the C Series aircraft.

Following a meeting with Bombardier management on Wednesday, Unifor and Unite the Union said the chances are slim that the United States will lower or cancel the 300-per-cent import duties applied in a preliminary ruling.

Washington is expected to vote on Monday on the preliminary and anti-dumping countervailing duties announced in the fall.

“There’s no question this is going to end up in front of the WTO [World Trade Organization],” Unifor national president Jerry Dias told reporters.

“You can’t depend on the kangaroo courts in the U.S. to rule in favour of [Bombardier].”

A battle before the international trade tribunal would likely take months or years to resolve. Canada can also challenge the ruling under the North American free-trade agreement.

Unifor and Unite also expressed serious doubts that the U.S. International Trade Commission will conclude in February that Boeing wasn’t harmed by the C Series.

Boeing alleges the Quebec aircraft manufacturer sold C Series aircraft to Delta Airlines at an unfairly low price thanks to financial support from the federal, provincial and British governments.

Mr. Dias, Unifor’s Quebec director Renaud Gagné and Steve Turner, assistant secretary general of Unite, representing workers in Northern Ireland, met for about an hour with Bombardier chief executive Alain Bellemare.

The unions from both sides of the Atlantic are meeting to come up with a common strategy to protect jobs as the United States is to decide whether the punitive duties will come into effect.

Mr. Dias and Mr. Turner are also expected to be in Washington in the next few days to meet with U.S. government and elected officials about Bombardier.

Unifor represents nearly 10,000 aerospace workers in Canada, including several thousand from C Series subcontractors.

“We have no confidence that the current U.S. administration will look at this in a rational way,” Mr. Turner said when asked about his expectations for the decision on Monday.

“We are not dealing with a rational President and we’re not dealing with an administration that is really looking at the long-term interests of the United States.”

Unite, which has 1.42 million members in Britain, represents about 3,000 of the roughly 4,200 Bombardier workers in Northern Ireland where the C Series wings are made.

The union representatives noted that more than half of C Series components are made in the United States, generating some 22,000 jobs south of the border.

The union leaders said they were reassured in the meeting that the arrival of Airbus as the majority shareholder of the C Series program would stabilize the short- and medium-term future of Bombardier’s largest aircraft.

Although Unifor isn’t pleased with a proposed second C Series assembly line at Airbus SE’s facility in Alabama, Mr. Dias said it was the price to pay for the C Series to take off.

EXHIBIT 10



A-122-859
Investigation
POI: 04/01/2016 - 03/31/2017
Public Document
Office IV: DJ

October 4, 2017

MEMORANDUM TO: Edward C. Yang
Senior Director, Office VII
Antidumping and Countervailing Duty Operations
Enforcement and Compliance

FROM: Abdelali Elouaradia
Director, Office IV
Enforcement and Compliance

RE: Less-Than-Fair-Value Investigation of 100- to-150 Seat Large
Civil Aircraft from Canada

SUBJECT: Application of Adverse Facts Available to Bombardier Inc.

Summary

Based on record information, the Department of Commerce (Department) determines it is appropriate to preliminarily apply total adverse facts available (AFA) to Bombardier Inc. (Bombardier), pursuant to sections 776(a) and 776(b) of the Tariff Act of 1930, as amended (the Act). Bombardier is the sole mandatory respondent in the less-than-fair-value investigation of 100- to-150 seat large civil aircraft (aircraft) from Canada.

Background

On April 27, 2017, the Department received an antidumping duty (AD) petition covering imports of aircraft from Canada, which was filed in proper form by The Boeing Company (Boeing) (the petitioner).¹ The petitioner calculated the estimated dumping margin in the petition using a U.S. price obtained from future aircraft purchase commitments identified in Delta Air Lines, Inc.'s (Delta) financial statements that relate to a 2016 contract between Delta and the Canadian

¹ See Letter to The Honorable Wilbur L. Ross, Jr., Secretary of Commerce from the petitioner, concerning, "Petitions for The Imposition Of Antidumping And Countervailing Duties On 100- To 150-Seat Large Civil Aircraft From Canada" (April 27, 2017) (the Petition).



producer, Bombardier, for the purchase of Bombardier's CS100 series aircraft.² The petitioner based home market price information on an article in *The Globe and Mail* citing industry sources as to the price to be paid by Air Canada, after discounts, for aircraft purchased from Bombardier.³ The petitioner provided information indicating that sales of aircraft in the home market were made at prices below the cost of production and, as a result, calculated normal value based on constructed value.⁴ In the *Initiation Notice*, the Department stated that based on a comparison of export price to normal value (based on constructed value), in accordance with sections 772, and 773(a) and (e) of the Act, the estimated dumping margin for aircraft is 79.82 percent.⁵ The Department initiated this investigation on May 17, 2017.⁶

In the *Initiation Notice*, the Department notified the public that only one company from Canada, Bombardier, was identified in the Petition.⁷ The petitioner provided an independent source as support for its claim that there was only one exporter/producer of aircraft in Canada, and the Department knew of no additional Canadian producers/exporters of subject merchandise under consideration.⁸ Accordingly, the Department stated that it intended to examine the sole Canadian producer/exporter identified in the Petition, Bombardier. On June 12, 2017, the Department issued the AD Questionnaire to Bombardier.⁹

On June 23, 2017, in accordance with 19 CFR 351.301(c)(1)(iii), Bombardier informed the Department, in writing, of its difficulties in submitting information in response to the Department's AD Questionnaire.¹⁰ Bombardier requested a meeting with Department officials to discuss, in detail, Bombardier's difficulties in submitting the requested information.¹¹ On June 28, 2017, Department officials met with representatives of Bombardier.¹² During this meeting, Department officials discussed the difficulties Bombardier indicated it was having in responding to the Department's AD Questionnaire.¹³ The alleged difficulties encountered by Bombardier were identified in a handout (meeting materials), which Bombardier also submitted on the record of the instant investigation.¹⁴ These meeting materials indicate that Bombardier, requested, *inter alia*, clarification of the terms "sales," and "contract sales/contracted sales" in reporting sales of

² See 100- to 150-Seat Large Civil Aircraft from Canada: *Initiation of Less-Than-Fair-Value Investigation*, 82 FR 24296, 24299 (May 26, 2017) (*Initiation Notice*) (citing generally Antidumping Duty Investigation Initiation Checklist: 100- to 150-Seat Large Civil Aircraft from Canada (Canada AD Initiation Checklist), dated May 17, 2017, and the Petition at Exhibit 42).

³ *Id.* (citing generally Canada AD Initiation Checklist, and the Petition, at Exhibit 42).

⁴ *Id.* (citing Canada AD Initiation Checklist at 6-7, and the Petition at 120-121).

⁵ *Id.* (citing generally Canada AD Initiation Checklist).

⁶ See generally *Initiation Notice*, 82 FR, at 24296.

⁷ *Id.*, at 24299-24300.

⁸ *Id.*

⁹ See Department Letter re: Antidumping Duty Questionnaire, dated June 9, 2017 (AD Questionnaire).

¹⁰ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Notification of Difficulties in Responding to Antidumping Questionnaire," dated June 23, 2017.

¹¹ *Id.*

¹² See Memorandum, "Antidumping Duty Investigation: 100- to 150-Seat Large Civil Aircraft from Canada, Meeting with Representatives of Bombardier, Inc.," dated July 5, 2017.

¹³ *Id.*

¹⁴ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: Handout from June 28, 2017 Meeting with Department Officials," dated June 23, 2017.

foreign like product and subject merchandise.¹⁵ Bombardier's meeting materials further indicate that Bombardier, requested, *inter alia*, clarification regarding how to report the constructed value of subject merchandise and the cost of production of the foreign like product.¹⁶

On June 27, 2017, Bombardier submitted a request to terminate the instant investigation.¹⁷ In its request, Bombardier argued that the Petition does not provide an evidentiary basis on which to initiate an AD investigation because the only U.S. sale alleged in the petition was, in fact, not a sale.¹⁸ Specifically, Bombardier argued that one of the key facts asserted in the Petition—that the purchase agreement between Bombardier and Delta constituted a sale—is demonstrably false when considered in light of the totality of the evidence in the Petition including the evidence pertaining to the petitioner's own selling practices.¹⁹ On July 7, 2017, the petitioner submitted its response to Bombardier's request to terminate the instant investigation.²⁰ The petitioner argued that there is no legal or factual basis for terminating the investigation.²¹

On June 29, 2017, the Department issued a revised Section D questionnaire to Bombardier that contained detailed instructions for reporting the constructed value of subject merchandise and the cost of production of the foreign like product, which addressed Bombardier's alleged difficulties in providing cost information to the Department.²² On July 10, 2017, the Department issued a clarification letter to Bombardier defining the terms "sales," "contract sales," and "contracted sales" in the initial antidumping duty questionnaire.²³ Specifically, the Department's July 10, 2017 clarification letter defined the term "contract sales" to mean firm orders of aircraft, exclusive of purchase options, which are not firm orders.²⁴ This letter instructed Bombardier to report its contract sales figures in accordance with all such order/contract information it maintains in the ordinary course of business. The July 10, 2017 clarification also included the following:

Bombardier provides historical order information on its website (*see* Attachment 1 of this letter); Bombardier should report its total contract sales made pursuant to

¹⁵ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: Handout from June 28, 2017," dated June 23, 2017.

¹⁶ *Id.*, at 3.

¹⁷ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: Request to Terminate the Investigation," dated June 27, 2017.

¹⁸ *Id.*, at 4-5.

¹⁹ *Id.*, at 5.

²⁰ See Letter to the Honorable Wilbur L. Ross, Jr. from the petitioner, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: Boeing's Response to Bombardier's Request to Terminate the Investigation," dated July 7, 2017.

²¹ *Id.*

²² See Department Letter re: "Antidumping Duty (AD) Investigation of 100- to-150 Seat Large Civil Aircraft (Aircraft) from Canada, covering the period April 1, 2016, through March 31, 2017" (Revised Section D Questionnaire), dated June 29, 2017.

²³ See Department letter re: "Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada," dated July 7, 2017. Although this letter is dated July 7, 2017, it was not available to interested parties *via* ACCESS until July 10, 2017.

²⁴ *Id.*

contracts effective as of the last day of the period of investigation (e.g., March 31, 2017). Bombardier should report each contract only once.²⁵

Attachment I to the Department's July 10, 2017 clarification letter contained information from Bombardier's website. The attachment included a "Program Status Report" for Bombardier's subject C Series aircraft, dated March 31, 2017, which indicated, *inter alia*, that U.S. customer Delta ordered 75 CS100 aircraft and home market customer Air Canada ordered 45 CS100 aircraft from Bombardier.²⁶

On July 10, 2017, Bombardier submitted its response to section A of the Department's AD Questionnaire.²⁷ However, Bombardier's submission did not provide significant information requested by the Department in section A of the AD Questionnaire.²⁸ For example, despite the Department's instructions to Bombardier to report the total quantity and value of contract sales made to the United States and in the home market during the period of investigation (POI), Bombardier did not provide this information.²⁹ Rather than providing quantity and value for contract sales as requested by the Department, Bombardier argued that the Department's regulations presume that sales occur at the time of invoicing, and limited its reported quantity and value information to "aircraft delivered and final invoices issued by {its affiliate, C Series Aircraft Limited Partnership} CSALP during the POI."³⁰ Bombardier claimed that it was not able to respond to information regarding "contract sales," until the Department provided clarification of the term, but that once Bombardier received clarification it intended "to provide the Department with the requested information to the greatest extent possible."³¹

On July 13, 2017, Bombardier submitted a request for further clarification of the Department's explanation of the terms "sale" and "contract sales."³² Specifically, Bombardier requested that the Department clarify its statement that "in the context of the {AD} questionnaire to Bombardier, the term 'sale' or 'contract sale' are used interchangeably."³³ Bombardier further requested that the Department "explain precisely what questions in the questionnaire should be reported on a 'contract' basis."³⁴ On July 20, 2017, the Department issued a second clarification letter to Bombardier that addressed Bombardier's claims of continued confusion regarding the Department's request for information.³⁵ In its July 20, 2017 letter, the Department included the following:

²⁵ *Id.*

²⁶ *Id.*

²⁷ See Bombardier's July 10, 2017 Section A Questionnaire Response (Bombardier July 10, 2017 AQR).

²⁸ *Id.*

²⁹ The Department's AD Questionnaire instructed Bombardier to "{s}tate the total quantity and value of the merchandise under investigation that you sold (or contract sales) during the {POI} in (or to):

i. the United States, ii. the home market, and iii. each of the three largest third-country markets." *Id.* at A-1.

³⁰ *Id.* at 9-10.

³¹ *Id.* at 10.

³² See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request," dated July 13, 2017, at 4-5.

³³ *Id.* at 5.

³⁴ *Id.*

³⁵ See Department letter re: "Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada," dated July 20, 2017.

First, the sentence quoted in item 1 above, was meant to convey the fact that the term “sale,” as used in the context of the Department’s antidumping duty questionnaire, encompasses a contract to sell, such as a purchase agreement, or a firm order (these two examples of contracts are not meant to be considered an exhaustive list of the types of contracts encompassed by the term “sale”).

Second, because the term “sale” includes a contract to sell (19 CFR 351.102(b)(43)), Bombardier should respond to each request for sales information in the Department’s antidumping duty questionnaire by supplying complete information regarding sales of the merchandise under investigation during the {POI}, including, but not necessarily limited to, sales that have been invoiced to the customer and contracts during the POI to sell the merchandise under investigation (*e.g.*, purchase agreements, firm orders, *etc.*).³⁶

On July 21, 2017, the petitioner filed comments on Bombardier’s section A questionnaire response arguing that Bombardier was refusing to cooperate in the investigation and significantly impeding the proceeding by flouting the Department’s requests for information.³⁷ In its submission, the petitioner stated that this investigation is based on the firm agreement between Bombardier and Delta for the purchase of 75 CS100 aircraft with options for an additional 50 CS100 aircraft that are reflected in Delta’s 2016 annual report.³⁸ The petitioner argued that Bombardier’s assertions in its section A response that it did not make any sales of aircraft in the United States were inconsistent with its public statements to the securities markets and its shareholders.³⁹

On July 28, 2017, Bombardier submitted its response to sections B and C of the Department’s questionnaire; however, Bombardier did not provide any of the information required by these sections of the questionnaire.⁴⁰ Specifically, Bombardier did not provide any of the requested information that should be reported in the home market and U.S. sales databases which the Department analyzes in the ordinary course of an antidumping duty investigation and uses to determine whether a respondent has made sales of merchandise under investigation at less than fair value.⁴¹ Rather, Bombardier argued that sections B and C of the AD Questionnaire, as amended by the Department, remained so unclear that Bombardier could not reasonably be expected to provide the requested data.⁴² Additionally, Bombardier submitted further arguments and factual information to support its claim that it did not sell subject merchandise during the POI because the material terms of sale had not been established regarding the aircraft under the

³⁶ *Id.*

³⁷ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, “100- to 150-Seat Large Civil Aircraft from Canada: Comments on Deficiencies in Bombardier’s Section A Response,” dated July 21, 2017.

³⁸ *Id.* at 2.

³⁹ *Id.* at 3.

⁴⁰ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, “100- to 150-Seat Large Civil Aircraft from Canada: Bombardier Sections B and C Response,” dated July 27, 2017.

⁴¹ *Id.*

⁴² *Id.* at 9-11.

Delta purchase agreement.⁴³ Bombardier also argued that the Department must either announce its intention to rescind the investigation or issue a negative preliminary dumping determination.⁴⁴

On July 31, 2017, Bombardier submitted its response to section D of the Department's questionnaire; however, once again, Bombardier did not provide any of the information required by this section of the questionnaire.⁴⁵ Specifically, Bombardier did not provide any of the requested information that should be reported in the cost database that the Department analyzes in the ordinary course of an antidumping duty investigation and uses in its margin calculation to determine whether a respondent has made sales of merchandise under investigation below the cost of production.⁴⁶ Nor did Bombardier provide any constructed value information.⁴⁷ Rather, similar to its July 28, 2017 submission, Bombardier argued that section D of the AD Questionnaire, as amended by the Department, remained so unclear that Bombardier could not reasonably be expected to provide the requested data.⁴⁸ Additionally, Bombardier argued that the Department's request for cost data based on a 12-month period is an inappropriate basis on which to analyze Bombardier's pricing behavior.⁴⁹

On August 16, 2017, the Department issued a letter to Bombardier that addressed Bombardier's claims that the Department's requests for information remained unclear, and provided additional clarification to assist Bombardier in fully responding to the AD questionnaire.⁵⁰ The August 16, 2017 letter noted that the Department had already provided guidance and multiple clarifications to Bombardier.⁵¹ Additionally, the letter emphasized that "{i}n press releases dated April 28, 2016, and June 28, 2016, Bombardier announced 'firm orders' from {Delta} for 75 CS100 aircraft and from Air Canada for 45 CS300 aircraft."⁵² The letter further indicated that Bombardier also reported these firm orders in its 2016 financial statement.⁵³ The Department instructed Bombardier to provide complete responses to sections B and C of the Department's AD Questionnaire based on these firm orders.⁵⁴ With respect to section D of the AD Questionnaire, the Department noted that it had already addressed Bombardier's concerns regarding reporting cost information.⁵⁵ The Department referred Bombardier to specific instructions for reporting cost information that were contained in the revised section D questionnaire issued to Bombardier on June 29, 2017.⁵⁶ Specifically, this revised section D questionnaire instructed Bombardier to report the cost of the U.S. and the home market sales

⁴³ *Id.* at 11-22, and Exhibits 1-35.

⁴⁴ *Id.* at 23-24.

⁴⁵ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: Bombardier Section D Response," dated July 31, 2017.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.* at 9-11.

⁴⁹ *Id.* at 9-15.

⁵⁰ See Department Letter re: Less-Than-Fair-Value Investigation of 100- to-150 Seat Large Civil Aircraft from Canada: Questionnaire, dated August 16, 2017.

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.*

based on the actual cost of other aircraft produced and completed, and to adjust those costs for physical differences between those aircraft and the aircraft sold to the United States and the home market.⁵⁷ In its August 16, 2017 letter, the Department also informed Bombardier that its prior submissions in response to sections B, C, and D of the Department's AD Questionnaire constitute argument, and not the information requested by the Department.⁵⁸ The Department informed Bombardier that any future response to the questionnaire must provide the information requested in the questionnaire.⁵⁹ Finally, the Department provided Bombardier with an additional opportunity to respond to the AD Questionnaire, and established a deadline of August 23, 2017.⁶⁰

On August 23, 2017, Bombardier responded to the Department's August 16, 2017 letter stating that "{d}espite the purported additional clarification included in the August 16 Supplemental Questionnaire, the Department's request for information pertaining to the remainder of the AD Questionnaire continues to be sufficiently unclear such that it remains unreasonable to expect Bombardier to respond to this request for information."⁶¹ With the exception of certain purchase agreements, Bombardier did not provide the information requested in the Department's AD Questionnaire.⁶²

During this investigation, Bombardier requested a number of extensions of the deadlines to submit its response to the various sections of the AD Questionnaire.⁶³ Based on a consideration of the reasons given by Bombardier in its extension requests, the Department granted Bombardier multiple extensions of the deadlines to submit its AD Questionnaire response.⁶⁴ None of Bombardier's extension requests stated that Bombardier was unable to provide the information requested in the Department's AD Questionnaire, in the form and manner requested

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Response to August 16 Supplemental Questionnaire," dated August 23, 2017.

⁶² *Id.*

⁶³ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire," dated June 29, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Second Extension Request for Antidumping Questionnaire," dated July 6, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request," dated July 13, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request—Correction," dated July 13, 2017; and Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Extension Request for Antidumping Questionnaire Based on Difficulties with ACCESS," dated July 27, 2017.

⁶⁴ See Department Letter re: Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire, dated June 30, 2017; See Department Letter re: Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada, dated July 20, 2017; and Department Letter re: Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire, dated July 28, 2017.

by the Department, or that it intended to submit argument in lieu of the information requested by the Department (under the cover letter of a questionnaire response).⁶⁵

Between July 21, 2017, and September 5, 2017, the petitioner submitted comments on Bombardier's submissions. In its September 5, 2017 submission, the petitioner argued that the Department should apply facts otherwise available on the record, and draw adverse inferences due to Bombardier's persistent failure to comply with the Department's requests for information.⁶⁶ Specifically, the petitioner argued that the Department should base Bombardier's preliminary dumping margin on total AFA. The petitioner further argued that as AFA, the Department should revise the estimating dumping margin contained in the Petition. Regarding its argument that the Department should revise the Petition dumping margin, the petitioner stated the following:

In relying on Petition information, however, the Department should account for the strategic choice Bombardier has made in preferring obstruction and noncompliance over cooperation. The Department should infer that Bombardier's refusal to cooperate reflects its belief that obstruction will yield a lower dumping margin than compliance with the Department's requests. Bombardier's intransigence is egregious, and the Department cannot permit Bombardier to game the investigative process in this manner. In the interests of inducing compliance, the Department should make an upward adjustment to Boeing's conservative estimate of a 79.82 {percent} dumping margin for Bombardier.⁶⁷

The petitioner further argued that the Department should revise the Petition dumping margin by using Petition data on average costs over the periods of delivery for the Delta and Air Canada sales rather than data on average costs over the life of the C Series aircraft program.⁶⁸ In other words, the Petitioner argued that the Department should calculate costs by allocating them over a shorter period of time. This requested revision to the cost calculation contained in the Petition, which results in an increase in the normal value used to derive the estimated dumping margin, would increase the estimated dumping margin from 79.82 percent to 143.35 percent.⁶⁹

⁶⁵ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire," dated June 29, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Second Extension Request for Antidumping Questionnaire," dated July 6, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request," dated July 13, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request -- Correction," dated July 13, 2017; and Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Extension Request for Antidumping Questionnaire Based on Difficulties with ACCESS," dated July 27, 2017.

⁶⁶ See Letter to the Honorable Wilbur L. Ross, Jr., Secretary of Commerce, from the petitioner, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Comments on Bombardier's August 23 Submission," dated September 5, 2017.

⁶⁷ *Id.*, at 4.

⁶⁸ *Id.*, at 13.

⁶⁹ *Id.*, at 13-14.

On September 13, 2017, Bombardier submitted a written request for the Department to reject the petitioner's September 5, 2017 submission "because of procedural irregularities with the submission."⁷⁰ Specifically, Bombardier argued that the petitioner failed to meet the regulatory requirements for filing new factual information on the record, and, therefore, the Department must reject the submission from the record.⁷¹ Bombardier further argued that the Department should reject the petitioner's September 5, 2017 submission because portions of it were illegible. On September 14, 2017, the petitioner responded to Bombardier's allegations regarding the petitioner's September 5, 2017 submission.⁷² The petitioner stated that its September 5, 2017 submission contained no new factual information, and the submission was entirely legible.

Statutory Framework

Sections 776(a)(1) and (2) of the Act provide that, subject to section 782(d) of the Act, the Department shall apply "facts otherwise available" if necessary information is not on the record or an interested party or any other person: (A) withholds information that has been requested; (B) fails to provide information within the deadlines established, or in the form and manner requested by the Department, subject to subsections (c)(1) and (e) of section 782 of the Act; (C) significantly impedes a proceeding; or (D) provides information that cannot be verified as provided by section 782(i) of the Act. Section 776(b) of the Act further provides that the Department may use an adverse inference in applying the facts otherwise available when a party has failed to cooperate by not acting to the best of its ability to comply with a request for information.

If an interested party, promptly after receiving a request for information from the Department, notifies the Department that such party is unable to submit the information requested in the requested form and manner, together with a full explanation and suggested alternative forms in which such party is able to submit the information, section 782(c)(1) of the Act provides that the Department shall consider the ability of the interested party to submit the information in the requested form and manner and may modify such requirements to avoid imposing an unreasonable burden to the party. Section 782(c)(2) of the Act provides that the Department shall take into account any difficulties experienced by interested parties, particularly small companies, in supplying information requested by the Department in connection with investigations and reviews, and shall provide interested parties any assistance that is practicable in supplying such information.

Where the Department determines that a response to a request for information does not comply with the request, section 782(d) of the Act provides that the Department will so inform the party submitting the response and shall, to the extent practicable, provide that party the opportunity to remedy or explain the deficiency. If the party fails to remedy the deficiency within the

⁷⁰ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire," dated June 29, 2017.

⁷¹ *Id.*

⁷² See Letter to the Honorable Wilbur L. Ross, Jr., Secretary of Commerce, from the petitioner, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Response to Bombardier's Request to Reject Boeing's September 5 Comments," dated September 14, 2017.

applicable time limits and subject to section 782(e) of the Act, the Department may disregard all or part of the original and subsequent responses, as appropriate.

On June 29, 2015, the Trade Preferences Extension Act of 2015 (TPEA) was signed into law and made numerous amendments to the antidumping and countervailing duty law, including amendments to section 776(b) and 776(c) of the Act and the addition of section 776(d) of the Act.⁷³ The amendments to section 776 the Act are applicable to all determinations made on or after August 6, 2015 and, therefore, apply to this investigation.⁷⁴

Section 776(b) of the Act provides that the Department may use an adverse inference in applying the facts otherwise available when a party has failed to cooperate by not acting to the best of its ability to comply with a request for information. In doing so, and under the TPEA, the Department is not required to determine, or make any adjustments to, a weighted average dumping margin based on any assumptions about information an interested party would have provided if the interested party had complied with the request for information.⁷⁵ Further, section 776(b)(2) of the Act states that an adverse inference may include reliance on information derived from the petition, the final determination from the countervailing duty or antidumping investigation, a previous administrative review under section 751 of the Act or determination under section 753 of the Act, or other information placed on the record.⁷⁶

Section 776(c) of the Act provides that, in general, when the Department relies on secondary information rather than on information obtained in the course of an investigation, it shall, to the extent practicable, corroborate that information from independent sources that are reasonably at its disposal.⁷⁷ Secondary information is defined as information derived from the petition that gave rise to the investigation, the final determination concerning the subject merchandise, or any previous review under section 751 of the Act concerning the subject merchandise.⁷⁸ Further, under the TPEA, the Department is not required to corroborate any dumping margin applied in a separate segment of the same proceeding.⁷⁹

Application of Facts Available

Bombardier Withheld Information That Had Been Requested and Failed to Provide Information by the Deadlines Established by the Department

⁷³ See TPEA, Pub. L. No. 114-27, 129 Stat. 362 (2015). The 2015 law does not specify dates of application for those amendments. On August 6, 2015, the Department published an interpretative rule, in which it announced applicability dates for each amendment to the Act, except for amendments contained to section 771(7) of the Act, which relate to determinations of material injury by the International Trade Commission. See *Dates of Application of Amendments to the Antidumping and Countervailing Duty Laws Made by the Trade Preferences Extension Act of 2015*, 80 FR 46793 (August 6, 2015) (*Applicability Notice*). The text of the TPEA may be found at <https://www.congress.gov/bill/114thcongress/house-bill/1295/text/pl>.

⁷⁴ See *Applicability Notice*, 80 FR at 46794-95.

⁷⁵ See section 776(b)(1)(B) of the Act; TPEA, section 502(1)(B).

⁷⁶ See also 19 CFR 351.308(c).

⁷⁷ See also 19 CFR 351.308(d).

⁷⁸ See Statement of Administrative Action Accompanying the Uruguay Round Agreements Act, H.R. Doc. No. 103-316, vol 1 (1994) (SAA) at 870.

⁷⁹ See section 776(c)(2) of the act; TPEA, section 502(2).

Sections 776(a)(2)(A) and 776(a)(2)(B) of the Act provide that, subject to section 782(d) of the Act, the Department shall apply “facts otherwise available” if an interested party withholds information that has been requested or fails to provide information within the deadlines established, or in the form and manner requested by the Department, subject to subsections (c)(1) and (e) of section 782 of the Act. Record evidence indicates that Bombardier withheld information requested by the Department’s AD Questionnaire. Specifically, as discussed in the Background section above, on July 10, 2017 Bombardier submitted a response to section A of the AD Questionnaire that lacked much of the information requested in section A of the Department’s AD Questionnaire.⁸⁰ Subsequently, on July 28, 2017, Bombardier submitted its response to sections B and C of the Department’s AD Questionnaire, which failed to respond to any of the questions in the questionnaire.⁸¹ Similarly, on July 31, 2017, Bombardier submitted its response to section D of the Department’s questionnaire, but this response did not provide any of the information required by this section of the questionnaire.⁸²

As noted above, despite being given a second opportunity on August 16, 2017, to respond to the AD Questionnaire, Bombardier failed to do so.⁸³ The Department informed Bombardier that it should respond to sections B and C of the questionnaire with respect to firm orders from Delta for 75 CS100 aircraft and from Air Canada for 45 CS300 aircraft.⁸⁴ Bombardier announced these firm orders in press releases and reported these firm orders in its 2016 financial statement. Therefore, the record indicates that Bombardier possessed the information requested by the Department.⁸⁵ The Department further requested that Bombardier report cost data using its books and records maintained in the ordinary course of business for a 12-month period.⁸⁶ Bombardier did not provide any of the requested information that belongs in the cost database. Because the cost data sought by the Department is the type of information that companies must use to create audited financial statements, in accordance with generally accepted accounting practices, it is reasonable to conclude that Bombardier possessed the cost information sought by the Department. Accordingly, record evidence indicates that Bombardier withheld information requested by the Department (*i.e.*, the information requested in the AD Questionnaire) within the meaning of section 776(a)(2)(A) of the Act. Furthermore, because Bombardier failed to respond to the Department’s AD Questionnaire by the deadlines established by the Department, Bombardier also failed to provide information requested in accordance with 776(a)(2)(B) of the Act. Accordingly, necessary information is not available on the record. In light of the facts mentioned above, we find that application of facts available is appropriate in this case pursuant to sections and 776(a)(1), 776(a)(2)(A), and 776(a)(2)(B) of the Act.⁸⁷

⁸⁰ See Bombardier July 10, 2017 AQR.

⁸¹ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, “100- to 150-Seat Large Civil Aircraft from Canada: Bombardier Sections B and C Response,” dated July 28, 2017.

⁸² See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, “100- to 150-Seat Large Civil Aircraft from Canada: Bombardier Section D Response,” dated July 31, 2017.

⁸³ See Department Letter re: Less-Than-Fair-Value Investigation of 100- to-150 Seat Large Civil Aircraft from Canada: Questionnaire, dated August 16, 2017.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ See Revised Section D Questionnaire, dated June 29, 2017.

⁸⁷ See section 776(a)(2)(A)-(B) of the Act.

As noted in the Legal Framework section above, the Department's application of facts available is subject to section 782 of the Act. Specifically, section 782(c)(1) of the Act requires the Department to consider the ability of an interested party, such as a mandatory respondent in an investigation, to provide information upon a prompt notification by that party that it is unable to submit the information in the form and manner required, and that party also provides a full explanation for the difficulty and suggests an alternative form in which the party is able to provide the information. In the instant investigation, Bombardier claimed that it was experiencing difficulties in responding to the AD Questionnaire, however it did not meet its statutory obligation to suggest an alternative form in which it was able to provide the information. Despite Bombardier's failure to meet its statutory obligations under section 782(c)(1) of the Act, the Department nevertheless provided Bombardier guidance and multiple clarifications regarding the AD Questionnaire. Specifically, as the Department explained in its August 16, 2017 letter to Bombardier:

On June 28, 2017, Department officials met with Bombardier's representatives to discuss the difficulties it reported having in responding to the questionnaire. After that meeting, to address Bombardier's difficulties, the Department issued a revised section D questionnaire with specific instructions related to Bombardier's concerns (e.g., how to report costs for aircraft that have not yet been built). On July 7, 2017, in response to Bombardier's request, the Department clarified the meaning of the phrase "contract sales," noting that it means firm orders. In its clarification letter, the Department included an attachment identifying orders from Air Canada for 45 aircraft and {Delta} for 75 aircraft. On July 20, 2017, in response to Bombardier's claims that certain portions of the Department's definition of "contract sales" are unclear, the Department again provided guidance regarding what the term "sale" encompasses. Subsequent to receiving this additional guidance, Bombardier did not indicate that it did not understand the Department's clarification such that it would be unable to respond to the questionnaire. Instead, Bombardier failed to respond to portions of section A of the questionnaire and failed to respond completely to sections B, C, and D of the questionnaire.⁸⁸

Moreover, in response to Bombardier's continued claims of confusion regarding the information requested by the Department in its AD Questionnaire, the Department made the additional step of identifying certain transactions for which Bombardier should provide the requested information. Specifically, the Department directed Bombardier to provide the requested information with respect to its firm orders for aircraft from Delta and Air Canada and reminded Bombardier that the Department provided specific cost reporting instructions in its revised section D questionnaire.⁸⁹ Thus, Bombardier should have reported the requested information based on the existing terms of the firm orders. It failed to do so. Hence, despite Department officials meeting with counsel for Bombardier, granting extensions of the deadline for Bombardier to submit its responses to various sections of the AD Questionnaire, and providing numerous clarifications regarding the information requested in the Department's AD Questionnaire, Bombardier failed to provide the information requested by the Department in the

⁸⁸ See Department letter re: Less-Than-Fair-Value Investigation of 100- to-150 Seat Large Civil Aircraft from Canada: Questionnaire, dated August 16, 2017.

⁸⁹ *Id.*

form and manner requested by the Department, nor did it suggest an alternative form or manner of reporting. Accordingly, record evidence demonstrates that the Department adequately considered Bombardier's ability to submit the information requested in the AD questionnaire in the form and manner requested by the Department within the meaning of section 782(c)(1) of the Act, and that Bombardier failed to provide the information requested by the Department. Furthermore, record evidence indicates that the Department considered Bombardier's stated difficulties in responding to the Department's request for information, and provided such assistance that was practicable in supplying such information pursuant to section 782(c)(2) of the Act by meeting with counsel for Bombardier, revising its cost reporting requirements to allow Bombardier to report cost of production and constructed value information using its books and records maintained in the ordinary course of business, issuing letters of clarification, extending deadlines for the submission of requested information, and providing Bombardier with an additional opportunity to respond to the AD Questionnaire.

Additionally, pursuant to section 782(d) of the Act, the Department notified Bombardier that its response to the Department's AD Questionnaire did not comply with the Department's request for information.⁹⁰ In accordance with section 782(d) of the Act, the Department provided Bombardier the opportunity to remedy the deficiency when, on August 16, 2017, it provided Bombardier a second chance to submit a complete response to the Department's AD Questionnaire. Despite being given a second opportunity to respond to the Department's AD Questionnaire, Bombardier did not provide the requested information.

Furthermore, because Bombardier failed to provide the information requested by the Department in sections B, C, and D of the AD Questionnaire by the deadlines established by the Department, section 782(e) of the Act does not apply.

Bombardier Significantly Impeded the Proceeding

Section 776(a)(2)(C) of the Act provides that, subject to section 782(d) of the Act, the Department shall apply "facts otherwise available" if an interested party or any other person significantly impedes a proceeding. Record evidence indicates that Bombardier significantly impeded the instant investigation by submitting incomplete information as well as submitting argument and factual information in support of its arguments in lieu of information requested by the Department in its AD Questionnaire. Specifically, as stated above, on July 10, 2017 Bombardier submitted a section A response that did not provide much of the information requested by the section A of the Department's AD Questionnaire.⁹¹ Rather than report quantity and value information on the basis of POI contract sales, as requested by the Department, Bombardier limited the reporting to third-country sales that were invoiced during the POI, since Bombardier argued that invoice date was the appropriate date of sale.⁹² Subsequently, on July 28, 2017, Bombardier submitted its response to sections B and C of the Department's AD Questionnaire, which failed to respond to any of the questions in the questionnaire.⁹³ Rather

⁹⁰ *Id.*

⁹¹ See Bombardier July 10, 2017 AQR.

⁹² *Id.*

⁹³ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil

than responding to the requests for information contained in the Department's AD Questionnaire, Bombardier submitted argument and documentation in support of its arguments.⁹⁴ Similarly, on July 31, 2017, Bombardier submitted its response to section D of the Department's questionnaire, but this response did not provide any of the information required by this section of the questionnaire.⁹⁵ Instead, Bombardier's response to section D of the AD Questionnaire contains argument regarding the appropriate methodology for reporting the cost of merchandise under consideration.⁹⁶ Bombardier did not submit a timely request to report cost data using a different period than the one specified in the Department's revised section D questionnaire, and chose instead to wait until the deadline for its section D response to state its objections to the Department's instructions.⁹⁷ Accordingly, record evidence supports a finding that Bombardier impeded this proceeding by refusing to provide information requested by the Department, and submitting other information and argument in response to the Department's AD Questionnaire.

Moreover, the record of the instant investigation indicates that Bombardier impeded this proceeding through its use of extension requests without notifying the Department that it continued to view the Department's requests for information as unclear. As stated in the Background section above, Bombardier requested a number of extensions of the deadlines to submit its response to the various sections of the AD Questionnaire.⁹⁸ In its first request for an extension to respond to the questionnaire, Bombardier even indicated that it had begun working on responding to the Department's questionnaire before the Department had issued the questionnaire.⁹⁹ In each case, the Department considered the reasons given by Bombardier in its extension request, and granted Bombardier an extension of the deadlines to submit its AD Questionnaire responses.¹⁰⁰ At the time that Bombardier submitted its extension requests to the

Aircraft from Canada: Bombardier Sections B and C Response," dated July 28, 2017.

⁹⁴ *Id.*

⁹⁵ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: Bombardier Section D Response," dated July 31, 2017.

⁹⁶ *Id.*

⁹⁷ See Revised Section D Questionnaire, dated June 29, 2017 at D-2 ("If you have any questions regarding the appropriate cost calculation period for the merchandise under consideration, notify the Department in writing before preparing your response to this section of the questionnaire.")

⁹⁸ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire," dated June 29, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Second Extension Request for Antidumping Questionnaire," dated July 6, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request," dated July 13, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request -- Correction," dated July 13, 2017; and Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Extension Request for Antidumping Questionnaire Based on Difficulties with ACCESS," dated July 27, 2017.

⁹⁹ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire," dated June 29, 2017.

¹⁰⁰ See Department Letter re: Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire, dated June 30, 2017; Department Letter re: Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada, dated July 20, 2017; and Department Letter re: Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada:

Department regarding section B through D of the questionnaire, and during the period after the Department provided its last clarification but before Bombardier submitted its responses to those sections of the Department's AD Questionnaire, Bombardier did not inform the Department that it did not intend to, or remained uncertain as to how to, provide the information requested in the Department's AD Questionnaire, in the form and manner requested by the Department.¹⁰¹ Moreover, Bombardier did not inform the Department that Bombardier planned to use the full allotment of time granted by the Department in response to Bombardier's extensions requests to ultimately submit argument and supporting factual information under the cover letter of questionnaire responses rather than providing the information requested by the AD Questionnaire. Thus, Bombardier's use of these extension requests delayed the progress of this investigation without resulting in any of the requested information being submitted to the Department. These actions impeded the administration of the instant investigation pursuant to section 776(a)(2)(C) of the Act.

For the foregoing reasons, the Department has met its requirements under section 782(c)(1), 782(d) and 782(e) of the Act, and finds that the application of facts available pursuant to sections 776(a)(1), 776(a)(2)(A), (B), and (C) of the Act is warranted.

Bombardier's Submission of Argument in Lieu of Information Requested by the Department Does Not Relieve Bombardier of the Requirement to Respond to the Department's Requests for Information

As an interested party in this investigation, Bombardier, is permitted to provide comments and timely-filed factual information for the Department's consideration; however, as a mandatory respondent in this investigation Bombardier is required to respond to the Department's requests for information within the deadlines established by the Department. In the *Initiation Notice*, the Department announced its intention to examine Bombardier as the respondent in this investigation,¹⁰² and issued its AD Questionnaire to Bombardier on June 12, 2017.¹⁰³ As the mandatory respondent, Bombardier was required to respond to the AD Questionnaire by providing complete information, in the form and manner requested by the Department, and, as discussed in detail above, Bombardier failed to provide this information. Bombardier insists that the Department should terminate the instant investigation or issue a preliminary negative determination based on the proposition that its purchase agreements do not reflect sales within

Extension Request for Antidumping Questionnaire, dated July 28, 2017.

¹⁰¹ See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Extension Request for Antidumping Questionnaire," dated June 29, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Second Extension Request for Antidumping Questionnaire," dated July 6, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request," dated July 13, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: AD Questionnaire Clarification and Extension Request -- Correction," dated July 13, 2017; and Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Extension Request for Antidumping Questionnaire Based on Difficulties with ACCESS," dated July 27, 2017.

¹⁰² See *Initiation Notice*, 82 FR at 24296, 24299-300.

¹⁰³ See AD Questionnaire, dated July 9, 2017.

the meaning of the Department's regulations. According to Bombardier, because its purchase agreements do not establish the final terms of sales, they do not reflect sales in accordance with the Department's regulations. This argument does not relieve Bombardier of its responsibility to provide the information requested by the Department in the questionnaire when the Department clearly notified Bombardier that it was seeking information about these purchase agreements (*e.g.*, contracts) in the questionnaire.

Bombardier had ample notice that it would be required to provide information requested in the Department's questionnaire regarding orders of Bombardier's aircraft made by U.S. customer Delta, and home-market customer Air Canada. First, in the *Initiation Notice* the Department explained that it initiated this investigation on the basis of contracts to sell aircraft in the United States and Canada.¹⁰⁴ Second, in its questionnaire, the Department instructed Bombardier to report sales information related to contracts.¹⁰⁵ Third, in response to Bombardier's claims of confusion regarding the information requested in the Department's AD Questionnaire, the Department issued two letters indicating that Bombardier should respond to the questionnaire with information regarding contracts.¹⁰⁶ In one of these letters, the Department explained to Bombardier that under 19 CFR 351.102(b)(43) the term "sale" includes a contract to sell.¹⁰⁷ Fourth, the Department specifically instructed Bombardier to respond to the AD Questionnaire with information regarding its purchase agreements with Delta and Air Canada.¹⁰⁸

The Department initiated this investigation to determine whether imports of aircraft from Canada were being, or were likely to be, sold in the United States at less-than-fair value.¹⁰⁹ Section 733(b) of the Act, states that at the preliminary determination of an investigation, the Department:

shall make a determination, based upon the information available to it at the time of the determination, of whether there is a basis to believe or suspect that the merchandise is being sold, *or is likely to be sold* at less than fair value.¹¹⁰

Additionally, section 772 of the Act defines export price and constructed export price as the price at which merchandise under consideration is first sold *or agreed to be sold*. Moreover, 773(a)(1)(B) of the Act states that normal value is the price at which:

¹⁰⁴ See *Initiation Notice*, 82 FR at 24296, 24299 (citing *generally* Canada AD Initiation Checklist, and the Petition at Exhibit 42).

¹⁰⁵ See AD Questionnaire, dated July 9, 2017.

¹⁰⁶ See Department letter re: "Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada," dated July 7, 2017; Department letter re: "Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada," dated July 20, 2017.

¹⁰⁷ See Department letter re: "Antidumping Duty Investigation of 100- to 150-Seat Large Civil Aircraft from Canada," dated July 20, 2017.

¹⁰⁸ See Department letter re: Less-Than-Fair-Value Investigation of 100- to-150 Seat Large Civil Aircraft from Canada: Questionnaire, dated August 16, 2017.

¹⁰⁹ See *Initiation Notice*, 82 FR at 24299.

¹¹⁰ Emphasis added.

the foreign like product is first sold (*or, in the absence of a sale, offered for sale*) for consumption in the exporting country, in the usual commercial quantities and in the ordinary course of trade and, to the extent practicable, at the same level of trade as the export price or constructed export price.¹¹¹

In addition, as previously mentioned, under 19 CFR 351.102(b)(43), the term “sale” includes a contract to sell. Furthermore, a Ways and Means Committee report describes the reason for amending the countervailing duty law, along the lines of what already existed in the antidumping duty law, to make clear that the Department could initiate countervailing duty cases and render determinations in situations where actual importation had not yet occurred but a sale for importation had been completed or was imminent.¹¹² The House Report explained that “{a}ntidumping law has, since its inception, applied not only to imports, but to sales or likely sales.”¹¹³ This report additionally explained that the amendment (including the phrase “or sold (or likely to be sold) for importation” in section 701(a) of the Act) was “particularly important in cases involving large capital equipment, where loss of a single sale can cause immediate economic harm and where it may be impossible to offer meaningful relief if the investigation is not initiated until after importation takes place.” This logic described in the House Report is relevant in this antidumping duty investigation as well. For these reasons, the Department appropriately requested information related to Bombardier’s purchase contracts for merchandise under investigation in the United States and the home market.

Yet Bombardier only submitted arguments in response to sections B through D of the questionnaire. Bombardier never suggested alternative methodologies for reporting the requested information and never gave any indication that it was attempting to provide the requested information by, at a minimum, responding to some of the questions in the questionnaire (*e.g.*, questions related to per-unit selling expenses, and production costs) and indicating that it continued to require assistance in responding to the remaining questions. By failing to provide any of the requested information related to sales contracts, including those sales contracts specifically identified by the Department, in response to the AD Questionnaire, Bombardier impeded the Department’s investigation into whether Bombardier’s aircraft are being sold, or are likely to be sold, in the United States at less than fair value within the meaning of section 733 of the Act. Moreover, while, as an interested party, Bombardier may make alternative arguments to contend that the Department should terminate the investigation or make a negative preliminary determination, it was still required to submit the information request by the Department in its AD Questionnaire so the Department could consider their alternative arguments and, if the Department disagreed with those arguments, calculate an estimated weighted-average dumping margin based on Bombardier’s sales and cost data.

Application of Adverse Inferences

Section 776(b) of the Act provides that the Department may use an adverse inference in applying the facts otherwise available when a party has failed to cooperate by not acting to the best of its

¹¹¹ Emphasis added.

¹¹² H.R. Rep. No. 98-725, at 11 (1984).

¹¹³ H.R. Rep. No. 98-725, at 11 (1984).

ability to comply with a request for information. The Department finds that an adverse inference in selecting the facts available is warranted in this case because Bombardier failed to cooperate by not acting to the best of its ability to comply with a request for information.¹¹⁴ The Federal Circuit, in *Nippon Steel*, provided an explanation of the failure to act to “the best of its ability,” provision stating that the ordinary meaning of “best” means “one’s maximum effort,” and that “ability” refers to “the quality or state of being able.”¹¹⁵ Further, the statutory mandate that a respondent act to the “best of its ability” requires the respondent to do the maximum that it is able to do.¹¹⁶ The Federal Circuit acknowledged, however, that while there is no willfulness requirement, “deliberate concealment or inaccurate reporting” would certainly be sufficient to find that a respondent did not act to the best of its ability, although it indicated that inadequate inquiries to respond to agency questions may suffice as well.¹¹⁷ Compliance with the “best of its ability” standard is determined by assessing whether a respondent has put forth its maximum effort to provide the Department with full and complete answers to all inquiries in an investigation.¹¹⁸ The Federal Circuit further noted that, while the standard does not require perfection and recognizes that mistakes sometimes occur, it does not condone inattentiveness, carelessness, or inadequate record keeping.¹¹⁹

Record evidence indicates that Bombardier has failed to cooperate by not acting to the best of its ability to comply with the Department’s requests for information. Specifically, the Department considers Bombardier’s failure to respond to portions of the section A questionnaire with information regarding its contract sales, and its failure to provide any of the information required by sections B, C, and D of the questionnaire as evidence that Bombardier did not put forth its maximum effort to provide the Department with full and complete answers to all inquiries in the instant investigation. Despite being instructed by the Department to respond to sections B and C of the Department’s questionnaire by providing information regarding its purchase agreements, Bombardier essentially refused to consider purchase agreements as a basis for reporting information required by these sections of the AD questionnaire. Rather than respond sections B and C of the Department’s questionnaire with the requested information regarding its purchase agreements, Bombardier claimed to be confused by these reporting requirements, even while it continued to argue that these purchase agreements are not the relevant transactions to be reported in response to those sections of the questionnaire. Instead of providing the information requested by the Department, with the exception of certain purchase agreements, Bombardier chose to only submit arguments without providing the information requested in sections B through D of the questionnaire. In fact, record evidence indicates that Bombardier failed to comply with unambiguous instructions contained in the Department’s AD Questionnaire. For example, the AD Questionnaire instructs respondents to repeat the question to which they are responding in their narrative submission and place their answer directly below it.¹²⁰ The Department’s AD Questionnaire also instructs parties to respond to each question, and further instructs them that if

¹¹⁴ See section 776(b) of the Act.

¹¹⁵ See *Nippon Steel Corporation v. United States*, 337 F.3d 1373, 1382 (Fed. Cir. 2003) (*Nippon Steel*).

¹¹⁶ *Id.*

¹¹⁷ *Id.*, at 1380.

¹¹⁸ *Id.*, at 1382.

¹¹⁹ *Id.*

¹²⁰ See AD Questionnaire, dated June 9, 2017.

a particular question does not apply, to state so and explain why in the questionnaire response.¹²¹ Bombardier failed to follow these instructions.¹²² This demonstrates that Bombardier failed to put forth its maximum effort in attempting to provide the information that the Department clearly stated it required to conduct the instant investigation. Even after the Department granted Bombardier extensions of the deadline to submit responses to various sections of the AD Questionnaire, Bombardier still only filed arguments, and factual information in support of its arguments, in lieu of responding to the questionnaire with the information requested by the Department. For the foregoing reasons, the Department preliminarily finds that Bombardier failed to cooperate by not acting to the best of its ability to comply with the Department's requests for information, pursuant to section 776(b) of the Act, and, accordingly, the use of an adverse inference in selecting among facts available is warranted.

Selection of AFA Rate

Where the Department applies AFA because a respondent failed to cooperate by not acting to the best of its ability to comply with a request for information, section 776(b) of the Act and 19 CFR 351.308(c)(1) authorize the Department to base the AFA rate on information derived from the petition, a final determination, a previous administrative review, or other information placed on the record.¹²³ In selecting a rate for AFA, the Department selects a rate that is sufficiently adverse to ensure that the uncooperative party does not obtain a more favorable result by failing to cooperate than if it had fully cooperated.¹²⁴

In selecting a rate based on AFA, the Department selects a rate that is sufficiently adverse to ensure that the uncooperative party does not obtain a more favorable result by failing to cooperate than if it had fully cooperated.¹²⁵ The Department's practice, in less-than-fair-value investigations, is to select, as an AFA rate, the higher of: (1) the highest dumping margin alleged in the petition, or (2) the highest calculated rate of any respondent in the investigation.¹²⁶

Consistent with the statute, court precedent, and its normal practice, the Department has assigned, as AFA, a rate of 79.82 percent to Bombardier. As noted above, this rate is the estimated dumping margin for aircraft from, and the only estimated dumping margin in, the Petition.¹²⁷ We disagree with the petitioner's suggestion that we should adjust this petition rate to reflect a revised cost calculation, and a correspondingly revised normal value (based on

¹²¹ *Id.*

¹²² See Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: Bombardier Sections B and C Response," dated July 28, 2017; Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "100- to 150-Seat Large Civil Aircraft from Canada: Bombardier Section D Response," dated July 31, 2017; and Letter to the Honorable Wilbur L. Ross, Jr. from Bombardier, concerning, "Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Response to August 16 Supplemental Questionnaire," dated August 23, 2017.

¹²³ See also 19 CFR 351.308(c); SAA, at 868-870.

¹²⁴ See SAA, at 870 (1994); accord *Ta Chen Stainless Steel Pipe Inc., v. United States*, 24 CIT 841, 848, 850 (CIT 2000).

¹²⁵ See SAA, at 870.

¹²⁶ See *Welded Stainless Pressure Pipe from Thailand: Final Determination of Sales at Less Than Fair Value*, 79 FR 31093 (May 30, 2014) and accompanying Issues and Decision Memorandum at Comment 3.

¹²⁷ *Id.* (citing Canada AD Initiation Checklist).

constructed value).¹²⁸ Prior to the initiation of this investigation, the Department examined both the factual information and methodology proposed by the petitioner to derive the estimated margin contained in the petition, and determined it was reasonable and reflective of accounting practices common to the aircraft industry. Further, while Boeing asserts that the revised calculation reflects a “unit cost” accounting methodology practiced by Bombardier in the normal course of business, there is no evidence on the record of this proceeding that explains exactly how Bombardier calculates costs under such a methodology. Moreover, the Department preliminarily determines that the unadjusted petition margin is adverse to Bombardier’s interests, and making the further adjustment suggested by the petitioner is not warranted for this preliminary determination. The Department is not aware of any new factual information that calls into question the accuracy of the petition margin, and for this reason the Department has not adjusted the petition margin of 79.82 percent, which it has preliminarily applied to Bombardier as AFA.

Corroboration

When using facts otherwise available, section 776(c) of the Act provides that, where the Department relies on secondary information (such as information in the petition) rather than information obtained in the course of an investigation, it must corroborate, to the extent practicable, that information from independent sources that are reasonably at its disposal.¹²⁹ Secondary information is defined as “information derived from the petition that gave rise to the investigation or review, the final determination concerning the subject merchandise, or any previous review under section 751 of the Act concerning the subject merchandise.”¹³⁰ Thus, because the 79.82 percent AFA rate applied to Bombardier is derived from the Petition and, consequently, is based upon secondary information, the Department must corroborate it to the extent practicable.

The SAA clarifies that “corroborate” means that the Department will satisfy itself that the secondary information to be used has probative value.¹³¹ The SAA and the Department’s regulations explain that independent sources used to corroborate such evidence may include, for example, published price lists, official import statistics and customs data, and information obtained from interested parties during the particular investigation.¹³² To corroborate secondary information, the Department will, to the extent practicable, determine whether the information used has probative value by examining the reliability and relevance of the information.¹³³

¹²⁸ See Letter to the Honorable Wilbur L. Ross, Jr., Secretary of Commerce, from the petitioner, concerning, “Antidumping Investigation of 100- to 150-Seat Large Civil Aircraft from Canada: Comments on Bombardier’s August 23 Submission,” dated September 5, 2017. As discussed in the Background section above, Bombardier argues that the Department should reject the petitioner’s September 5, 2017 submission because the petitioner failed to meet the regulatory requirements for filing new factual information on the record, and portions of the submission are illegible. The petitioner stated that its September 5, 2017 submission contained no new factual information, and the submission is entirely legible. The Department has reviewed the record of this investigation in light of these claims and preliminarily determines that there is no basis to reject the petitioner’s September 5, 2017 submission.

¹²⁹ See also 19 CFR 351.308(d).

¹³⁰ See SAA at 870; see also 19 CFR 351.308(c)(1).

¹³¹ See SAA at 870; see also 19 CFR 351.308(d).

¹³² See SAA at 870; see also 19 CFR 351.308(d).

¹³³ See *Tapered Roller Bearings and Parts Thereof, Finished and Unfinished, From Japan, and Tapered Roller*

We determined that the Petition margin of 79.82 percent is reliable because, to the extent appropriate information was available, we reviewed the adequacy and accuracy of the information in the Petition during our pre-initiation analysis.¹³⁴ We examined evidence supporting the calculations in the Petition and have considered that analysis to determine the probative value of the dumping margin alleged in the Petition for use as AFA for this preliminary determination. For example, during our pre-initiation analysis, we examined the key elements of the export price and normal value calculations, including the constructed value calculations used in the Petition to derive normal value and the alleged dumping margin. Furthermore, during our pre-initiation analysis, we also examined information (to the extent that such information was reasonably available) from various independent sources provided either in the Petition or, on our request, in the supplements to the Petition that support certain elements of the export price and normal value calculations used in the Petition to derive the dumping margin alleged in the Petition.

Based on our examination of the information, as discussed in detail in the Canada AD Initiation Checklist, we consider the petitioner's export price and normal value calculations to be reliable. Because we obtained no other information that calls into question the validity of the sources of information or the validity of the information supporting the U.S. price or normal value calculations provided in the Petition, based on our examination of the aforementioned information, we preliminarily consider the export price and normal value calculations from the Petition to be reliable. Because we confirmed the accuracy and validity of the information underlying the derivation of the dumping margin alleged in the Petition by examining source documents and publicly available information, we preliminarily determine that the dumping margin alleged in the Petition is reliable for the purposes of this investigation.

In making a determination as to the relevance aspect of corroboration, the Department will consider information reasonably at its disposal as to whether there are circumstances that would render a rate not relevant. In accordance with new section 776(d)(3) of the Act, when selecting an AFA dumping margin, the Department is not required to estimate what the dumping margin would have been if the interested party failing to cooperate had cooperated or to demonstrate that the dumping margin reflects an "alleged commercial reality" of the interested party. In this case, as there are no other respondents in this investigation, we relied upon the dumping margin found in the Petition, which is the only reliable information regarding the aircraft industry reasonably at the Department's disposal. Furthermore, we preliminarily determine the petition rate to be relevant because it is derived from information about prices and accounting methodologies used in the aircraft industry.

Accordingly, the Department preliminarily determines that the dumping margin alleged in the

Bearings, Four Inches or Less in Outside Diameter, and Components Thereof, From Japan; Preliminary Results of Antidumping Duty Administrative Reviews and Partial Termination of Administrative Reviews, 61 FR 57391, 57392 (November 6, 1996), unchanged in Tapered Roller Bearings and Parts Thereof, Finished and Unfinished, From Japan, and Tapered Roller Bearings, Four Inches or Less in Outside Diameter, and Components Thereof, From Japan; Final Results of Antidumping Duty Administrative Reviews and Termination in Part, 62 FR 11825 (March 13, 1997).

¹³⁴ See Canada AD Initiation Checklist.

petition has probative value and has corroborated the AFA rate of 79.82 percent to the extent practicable within the meaning of section 776(c) of the Act by demonstrating that the rate: (1) was determined to be reliable in the pre-initiation stage of this investigation (and we have no information indicating otherwise); and (2) is relevant.¹³⁵

Recommendation

For the reasons set forth in detail above, and pursuant to 776(a)(1), 776(a)(2)(A)-(C) and 776(b) of the Act, we recommend that the Department preliminarily apply, as AFA, 79.82 percent, which is the highest rate on the record of this proceeding, to Bombardier.

☒

Agree

☐

Disagree

10/4/2017

X *Edward Yang*

Signed by: EDWARD YANG

Edward C. Yang
Senior Director, Office VII
Antidumping and Countervailing Duty Operations
Enforcement and Compliance

¹³⁵ See section 776(c) of the Act and 19 CFR 351.308(c) and (d); *Final Determination of Sales at Less Than Fair Value and Affirmative Determination of Critical Circumstances, in Part: Light-Walled Rectangular Pipe and Tube from the People's Republic of China*, 73 FR 35652, 35653 (June 24, 2008), and accompanying Issues and Decision Memorandum at Comment 1.

EXHIBIT 11

BUSINESS PROPRIETARY DOCUMENT
NOT SUSCEPTIBLE TO SUMMARIZATION

EXHIBIT 12

Manufacturer	Type	Variant	Operator	OprCate	OprCountry	Usage	Status	REGNO	SERIALNO	CLASS1	CLASS2	CLASS3	Total Seats	seat Classes
Boeing	B73N	700	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-BYY	33938	0	8	120	128	2
Boeing	B73N	700	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-GOO	35962	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-BZA	32674	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-BZO	32676	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-CAD	32680	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-CAP	32695	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-CBF	32696	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-CBT	34756	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-CYJ	30647	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-CYN	30648	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	In Service	LV-CYO	30633	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	Stored	LV-CWL	30644	0	8	120	128	2
Boeing	B73N	700 Winglets	Aerolineas Argentinas	Airline	Argentina	Passenger	Stored	LV-CXN	30638	0	8	120	128	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	EI-DRD	35117	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	EI-DRE	35787	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N784XA	33784	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N788XA	33788	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N842AM	32842	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N851AM	29363	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N904AM	28262	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N908AM	30038	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N997AM	30283	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	XA-AAM	33783	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	XA-CTG	35123	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	XA-CYM	35124	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	XA-GOL	35785	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	XA-MAH	35122	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	XA-NAM	33790	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	XA-PAM	34293	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	XA-VAM	34295	0	18	112	130	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N423AM	32423	0	16	112	128	2
Boeing	B73N	700 Winglets	Aeromexico	Airline	Mexico	Passenger	In Service	N906AM	29356	0	12	112	124	2
Boeing	B73N	700C Winglets	Air Algeria	Airline	Algeria	Quick-Chair	In Service	7T-VKS	61340	16	0	96	112	2
Boeing	B73N	700C Winglets	Air Algeria	Airline	Algeria	Quick-Chair	In Service	7T-VKT	61341	16	0	96	112	2
Boeing	B73N	700	Air China	Airline	China	Passenger	In Service	B-2612	33411	8	0	120	128	2
Boeing	B73N	700	Air China	Airline	China	Passenger	In Service	B-2613	33412	0	8	120	128	2
Boeing	B73N	700	Air China	Airline	China	Passenger	In Service	B-2700	33413	0	8	120	128	2
Boeing	B73N	700	Air China	Airline	China	Passenger	In Service	B-5043	33408	0	8	120	128	2
Boeing	B73N	700	Air China	Airline	China	Passenger	In Service	B-5044	33409	0	8	120	128	2
Boeing	B73N	700	Air China	Airline	China	Passenger	In Service	B-5045	33410	0	8	120	128	2
Boeing	B73N	700	Air China	Airline	China	Passenger	In Service	B-5211	34019	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5201	34023	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5202	34537	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5203	34538	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5213	34020	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5214	34021	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5217	34022	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5220	34539	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5227	34541	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5228	34542	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5229	34543	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5296	41091	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5297	41092	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China	Airline	China	Passenger	In Service	B-5803	41093	0	8	120	128	2
Boeing	B73N	700 Winglets	Air China Inner Mongolia	Airline	China	Passenger	In Service	B-5226	34540	0	8	120	128	2
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA01AN	33916	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA07AN	33900	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA08AN	33877	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA09AN	33878	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA11AN	33882	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA12AN	33881	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA14AN	33883	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA15AN	33888	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Do	Airline	Japan	Passenger	In Service	JA16AN	33889	0	0	144	144	1
Boeing	B73N	700 Winglets	Air Niugini	Airline	Papua New Guinea	Passenger	In Service	P2-PXD	28007	0	16	104	120	2
Boeing	B73N	700 Winglets	Air Transat	Airline	Canada	Passenger	In Service	C-GTQP	29081	0	0	149	149	1
Boeing	B73N	700 Winglets	AirZena - Georgian Airways	Airline	Georgia	Passenger	In Service	4L-TGO	35086	0	12	121	133	2
Boeing	B73N	700 Winglets	AirZena - Georgian Airways	Airline	Georgia	Passenger	In Service	4L-TGM	29904	0	12	120	132	2
Boeing	B73N	700 Winglets	AirZena - Georgian Airways	Airline	Georgia	Passenger	In Service	4L-TGN	33015	0	12	120	132	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N607AS	29751	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N609AS	29752	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N611AS	29753	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N612AS	30162	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N613AS	30163	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N614AS	30343	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N615AS	30344	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N618AS	30543	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N619AS	30164	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N622AS	30165	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N625AS	30792	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	In Service	N644AS	30795	12	0	112	124	2
Boeing	B73N	700 Winglets	Alaska Airlines	Airline	United States	Passenger	Stored	N626AS	30793	0	0	0	0	0
Boeing	B73N	700SF (SCD) Win	Alaska Airlines	Airline	United States	Freight / C	In Service	N627AS	30794	0	0	0	0	0
Boeing	B73N	700 Winglets	ANA-All Nippon Airways	Airline	Japan	Passenger	In Service	JA02AN	33872	0	8	112	120	2
Boeing	B73N	700 Winglets	ANA-All Nippon Airways	Airline	Japan	Passenger	In Service	JA03AN	33873	0	8	112	120	2
Boeing	B73N	700 Winglets	ANA-All Nippon Airways	Airline	Japan	Passenger	In Service	JA04AN	33874	0	8	112	120	2
Boeing	B73N	700 Winglets	ANA-All Nippon Airways	Airline	Japan	Passenger	In Service	JA05AN	33875	0	8	112	120	2

Boeing	B73N	700	Winglets	ANA-All Nippon Airways	Airline	Japan	Passenger	In Service	JA06AN	33876	0	8	112	120	2
Boeing	B73N	700	Winglets	ANA-All Nippon Airways	Airline	Japan	Passenger	In Service	JA17AN	33884	0	8	112	120	2
Boeing	B73N	700	Winglets	ANA-All Nippon Airways	Airline	Japan	Passenger	In Service	JA18AN	33885	0	8	112	120	2
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	In Service	5N-MJE	34761	0	0	149	149	1
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	In Service	5N-MJF	34762	0	0	149	149	1
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	In Service	5N-MJC	33932	0	12	119	131	2
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	In Service	5N-MJD	36073	0	12	119	131	2
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	In Service	5N-MJG	33944	0	12	119	131	2
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	In Service	5N-MJH	36719	0	12	119	131	2
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	In Service	5N-MJJ	28641	0	12	112	124	2
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	In Service	5N-MJK	30830	0	12	112	124	2
Boeing	B73N	700	Winglets	Arik Air	Airline	Nigeria	Passenger	Stored	5N-MJI	28640	0	12	112	124	2
Boeing	B73N	700	Winglets	ASKY	Airline	Multi-National (Africa)	Passenger	In Service	ET-AOK	33012	0	16	102	118	2
Boeing	B73N	700	Winglets	ASKY	Airline	Multi-National (Africa)	Passenger	In Service	ET-ANG	34401	0	16	101	117	2
Boeing	B73N	700	Winglets	ASKY	Airline	Multi-National (Africa)	Passenger	In Service	ET-ANH	34402	0	16	101	117	2
Boeing	B73N	700		ASL Airlines France	Airline	France	Passenger	In Service	F-GZTU	32427	0	0	149	149	
Boeing	B73N	700	Winglets	ASL Airlines France	Airline	France	Passenger	In Service	F-GZTD	32418	0	0	149	149	1
Boeing	B73N	700	Winglets	ASL Airlines France	Airline	France	Passenger	In Service	F-GZTS	32414	0	0	149	149	1
Boeing	B73N	700	Winglets	ASL Airlines France	Airline	France	Passenger	In Service	F-GZTP	29370	0	0	148	148	1
Boeing	B73N	700	Winglets	ASL Airlines France	Airline	France	Passenger	In Service	F-GZTQ	29080	0	0	148	148	1
Boeing	B73N	700	Winglets	Blue Air	Airline	Romania	Passenger	In Service	YR-BMA	30651	0	0	144	144	1
Boeing	B73N	700	Winglets	BoA	Airline	Bolivia	Passenger	In Service	CP-2922	28219	0	0	136	136	1
Boeing	B73N	700	Winglets	BoA	Airline	Bolivia	Passenger	In Service	CP-2923	30642	0	0	136	136	1
Boeing	B73N	700	Winglets	BoA	Airline	Bolivia	Passenger	In Service	CP-2924	30037	0	0	136	136	1
Boeing	B73N	700	Winglets	BoA	Airline	Bolivia	Passenger	In Service	CP-3018	28498	0	8	126	134	2
Boeing	B73N	700	Winglets	Camair-Co	Airline	Cameroon	Passenger	In Service	TJ-QCA	34480	0	12	116	128	2
Boeing	B73N	700	Winglets	Camair-Co	Airline	Cameroon	Passenger	In Service	TJ-QCB	33920	0	12	116	128	2
Boeing	B73N	700		China Eastern Airlines	Airline	China	Passenger	In Service	B-2682	33038	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Airlines	Airline	China	Passenger	In Service	B-5257	36759	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Airlines	Airline	China	Passenger	In Service	B-5258	36760	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5074	33008	0	0	143	143	1
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-2503	30075	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-2502	30074	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-2639	29912	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-2640	29913	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5054	29365	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5084	33009	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5097	29364	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5225	33045	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5231	33046	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5242	36269	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5243	36270	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5245	36271	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5255	36757	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5256	36758	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5259	36762	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5263	36766	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5265	36767	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5267	36768	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5270	36770	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5271	36772	0	8	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5276	39719	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5282	39720	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5293	39721	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5295	39723	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5802	39725	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5807	39727	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5809	39729	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5815	39308	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5816	39310	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5817	39739	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5819	39731	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5820	39733	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5821	39737	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5822	39735	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-5828	39741	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-6141	39745	8	0	126	134	2
Boeing	B73N	700	Winglets	China Eastern Yunnan	Airline	China	Passenger	In Service	B-6142	39747	8	0	126	134	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-2169	32936	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-2620	32937	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-2622	32938	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-2916	32939	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-2917	32940	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5068	32933	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5069	32934	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5070	32935	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5232	35360	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5233	35361	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5236	35362	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5238	35363	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5239	35364	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5240	35368	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5241	35372	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5247	35377	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5250	35378	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5251	35384	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5252	35382	0	8	112	120	2
Boeing	B73N	700	Winglets	China Southern Airlines	Airline	China	Passenger	In Service	B-5253	35383	0	8	112	120	2

Boeing	B73N	700 Winglets	China Southern Airlines	Airline	China	Passenger In Service	B-5275	38912	0	8	112	120	2
Boeing	B73N	700 Winglets	China Southern Airlines	Airline	China	Passenger In Service	B-5281	38914	0	8	112	120	2
Boeing	B73N	700 Winglets	China Southern Airlines	Airline	China	Passenger In Service	B-5283	38919	0	8	112	120	2
Boeing	B73N	700 Winglets	China Southern Airlines	Airline	China	Passenger In Service	B-5285	38917	0	8	112	120	2
Boeing	B73N	700 Winglets	China Southern Airlines	Airline	China	Passenger In Service	B-5290	38925	0	8	112	120	2
Boeing	B73N	700 Winglets	China Southern Airlines	Airline	China	Passenger In Service	B-5291	38962	0	8	112	120	2
Boeing	B73N	700	China United Airlines	Airline	China	Passenger In Service	B-2681	33037	0	0	141	141	1
Boeing	B73N	700	China United Airlines	Airline	China	Passenger In Service	B-2684	33039	0	0	141	141	1
Boeing	B73N	700	China United Airlines	Airline	China	Passenger In Service	B-2685	33040	0	0	141	141	1
Boeing	B73N	700 Winglets	China United Airlines	Airline	China	Passenger In Service	B-5208	33041	0	0	141	141	1
Boeing	B73N	700 Winglets	China United Airlines	Airline	China	Passenger In Service	B-5209	33042	0	0	141	141	1
Boeing	B73N	700 Winglets	China United Airlines	Airline	China	Passenger In Service	B-5210	33043	0	0	141	141	1
Boeing	B73N	700 Winglets	China United Airlines	Airline	China	Passenger In Service	B-5223	33044	0	0	141	141	1
Boeing	B73N	700 Winglets	China United Airlines	Airline	China	Passenger In Service	B-5262	36764	0	0	141	141	1
Boeing	B73N	700 Winglets	Copa Airlines	Airline	Panama	Passenger In Service	HP-1374C	30459	0	12	112	124	2
Boeing	B73N	700 Winglets	Copa Airlines	Airline	Panama	Passenger In Service	HP-1375C	30460	0	12	112	124	2
Boeing	B73N	700 Winglets	Copa Airlines	Airline	Panama	Passenger In Service	HP-1520C	33707	0	12	112	124	2
Boeing	B73N	700 Winglets	Copa Airlines	Airline	Panama	Passenger In Service	HP-1521C	33708	0	12	112	124	2
Boeing	B73N	700 Winglets	Copa Airlines	Airline	Panama	Passenger In Service	HP-1530C	34535	0	12	112	124	2
Boeing	B73N	700 Winglets	Copa Airlines	Airline	Panama	Passenger In Service	HP-1531C	34536	0	12	112	124	2
Boeing	B73N	700 Winglets	Copa Airlines Colombia	Airline	Colombia	Passenger In Service	HP-1373C	30458	0	12	112	124	2
Boeing	B73N	700	Delta Air Lines	Airline	United States	Passenger Stored	N324GL	28613	0	0	144	144	1
Boeing	B73N	700	Delta Air Lines	Airline	United States	Passenger Stored	N321GL	32440	0	0	138	138	1
Boeing	B73N	700	Delta Air Lines	Airline	United States	Passenger Stored	N322GL	28580	0	0	138	138	1
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N301DQ	29687	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N302DQ	29648	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N303DQ	29688	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N304DQ	29683	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N305DQ	29645	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N306DQ	29633	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N307DQ	29679	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N308DE	29656	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N309DE	29634	12	0	112	124	2
Boeing	B73N	700 Winglets	Delta Air Lines	Airline	United States	Passenger In Service	N310DE	29665	12	0	112	124	2
Boeing	B73N	700	Eastar Jet	Airline	South Korea	Passenger In Service	HL8205	32412	0	0	149	149	1
Boeing	B73N	700	Eastar Jet	Airline	South Korea	Passenger In Service	HL8207	32413	0	0	149	149	1
Boeing	B73N	700	Eastar Jet	Airline	South Korea	Passenger In Service	HL8022	32426	0	8	126	134	2
Boeing	B73N	700	Eastar Jet	Airline	South Korea	Passenger Stored	N278EA	28006	0	0	126	126	1
Boeing	B73N	700 Winglets	Eastern Air Lines	Airline	United States	Passenger Stored	HB-JJH	33791	0	12	114	126	2
Boeing	B73N	700 Winglets	ECAir	Airline	Congo	Passenger Stored	TN-AJI	33793	0	12	112	124	2
Boeing	B73N	700 Winglets	ECAir	Airline	Ethiopia	Passenger In Service	ET-ALK	33764	0	16	102	118	2
Boeing	B73N	700 Winglets	Ethiopian Airlines	Airline	Ethiopia	Passenger In Service	ET-ALM	33765	0	16	102	118	2
Boeing	B73N	700 Winglets	Ethiopian Airlines	Airline	Ethiopia	Passenger In Service	ET-ALN	33766	0	16	102	118	2
Boeing	B73N	700 Winglets	Ethiopian Airlines	Airline	Ethiopia	Passenger In Service	ET-ARD	30710	0	16	102	118	2
Boeing	B73N	700 Winglets	Fiji Airways	Airline	Fiji	Passenger In Service	DQ-FJF	28878	0	8	114	122	2
Boeing	B73N	700	Gazpromavia	Airline	Russia	Passenger In Service	RA-73000	28630	0	20	102	122	2
Boeing	B73N	700	Gazpromavia	Airline	Russia	Passenger In Service	RA-73004	28635	0	20	102	122	2
Boeing	B73N	700	Germany	Airline	Germany	Passenger In Service	D-AGER	28107	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-ABLA	36114	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-ABLB	36115	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-AGEL	28110	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-AGEN	28100	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-AGEP	28102	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-AGEQ	28103	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-AGES	28108	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-AGET	28109	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Germany	Passenger In Service	D-AGEU	28104	0	0	148	148	1
Boeing	B73N	700 Winglets	Germany	Airline	Brazil	Passenger In Service	PR-GIG	29077	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-GIM	30238	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-GIN	30242	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-GON	30051	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-GOQ	33417	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-GOR	33380	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-GOW	28584	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-VBH	30239	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-VBI	30246	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-VBM	32406	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-VBN	28577	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-VBO	30247	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-VBQ	30135	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-VBW	30739	0	0	138	138	1
Boeing	B73N	700	GOL	Airline	Brazil	Passenger In Service	PR-VBX	30738	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GEA	37595	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GEC	37608	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GED	37609	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GEE	32415	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GEH	34757	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GEI	34758	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GEJ	34753	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GEK	34755	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-GHH	32743	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-VBU	29905	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-VBV	30050	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-VBY	28499	0	0	138	138	1
Boeing	B73N	700 Winglets	GOL	Airline	Brazil	Passenger In Service	PR-VBZ	28500	0	0	138	138	1
Boeing	B73N	700 Winglets	Hainan Airlines	Airline	China	Passenger In Service	B-5288	39201	0	8	120	128	2
Boeing	B73N	700 Winglets	Hainan Airlines	Airline	China	Passenger In Service	B-5289	39198	0	8	120	128	2
Boeing	B73N	700 Winglets	Hainan Airlines	Airline	China	Passenger In Service	B-5813	39210	0	8	120	128	2

Boeing	B73N	700	Hebel Airlines	Airline	China	Passenger In Service	B-5212	34024	8	0	120	128	2
Boeing	B73N	700	Hebel Airlines	Airline	China	Passenger In Service	B-5215	34025	8	0	120	128	2
Boeing	B73N	700 Winglets	Iraqi Airways	Airline	Iraq	Passenger Stored	YI-AQK	33935	0	12	125	137	2
Boeing	B73N	700 Winglets	Iraqi Airways	Airline	Iraq	Passenger Stored	YI-AQL	35789	0	12	125	137	2
Boeing	B73N	700	Jet Airways	Airline	India	Passenger In Service	VT-JLB	28250	0	8	126	134	2
Boeing	B73N	700	Jet Airways	Airline	India	Passenger In Service	VT-SIZ	33025	0	8	126	134	2
Boeing	B73N	700	Jet Airways	Airline	India	Passenger In Service	VT-SJA	33026	0	8	126	134	2
Boeing	B73N	700 Winglets	Jet Airways	Airline	India	Passenger In Service	VT-JGX	34805	0	8	126	134	2
Boeing	B73N	700 Winglets	Jet Airways	Airline	India	Passenger In Service	VT-JGY	34806	0	8	126	134	2
Boeing	B73N	700 Winglets	Jet Time	Airline	Denmark	Passenger In Service	OY-JTS	33465	0	0	149	149	1
Boeing	B73N	700 Winglets	Jet Time	Airline	Denmark	Passenger In Service	OY-JTR	28497	0	0	148	148	1
Boeing	B73N	700 Winglets	Jet Time	Airline	Denmark	Passenger In Service	OY-JTT	29079	0	0	148	148	1
Boeing	B73N	700 Winglets	Jet Time	Airline	Denmark	Passenger In Service	OY-JTY	30727	0	0	148	148	1
Boeing	B73N	700 Winglets	Jet Time Finland	Airline	Finland	Passenger In Service	OH-JTZ	29083	0	0	148	148	1
Boeing	B73N	700 Winglets	Kenya Airways	Airline	Kenya	Passenger In Service	5Y-KQG	32371	0	16	100	116	2
Boeing	B73N	700 Winglets	Kenya Airways	Airline	Kenya	Passenger In Service	5Y-KQH	32372	0	16	100	116	2
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGD	30366	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGE	30371	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGF	30365	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGG	30367	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGH	38053	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGI	30364	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGK	38054	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGL	30369	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGM	39255	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGN	38125	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGO	38126	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGP	38127	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGQ	39256	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGR	39446	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGT	38634	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGU	39257	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGW	38128	0	0	142	142	1
Boeing	B73N	700 Winglets	KLM Royal Dutch Airlines	Airline	Netherlands	Passenger In Service	PH-BGX	38635	0	0	142	142	1
Boeing	B73N	700	Kunming Airlines	Airline	China	Passenger In Service	B-2669	32722	0	0	144	144	1
Boeing	B73N	700	Kunming Airlines	Airline	China	Passenger In Service	B-2678	32244	0	0	144	144	1
Boeing	B73N	700	Kunming Airlines	Airline	China	Passenger In Service	B-2679	29893	0	0	144	144	1
Boeing	B73N	700	Kunming Airlines	Airline	China	Passenger In Service	B-5025	30741	0	0	144	144	1
Boeing	B73N	700	Kunming Airlines	Airline	China	Passenger In Service	B-5026	30742	0	0	144	144	1
Boeing	B73N	700 Winglets	Kunming Airlines	Airline	China	Passenger In Service	B-7870	60153	0	0	144	144	1
Boeing	B73N	700 Winglets	Kunming Airlines	Airline	China	Passenger In Service	B-7871	60154	0	0	144	144	1
Boeing	B73N	700 Winglets	Kunming Airlines	Airline	China	Passenger In Service	B-7872	60155	0	0	144	144	1
Boeing	B73N	700 Winglets	Linhas Aereas de Mocambique	Airline	Mozambique	Passenger In Service	C9-BAQ	33792	0	12	120	132	2
Boeing	B73N	700	Lucky Air	Airline	China	Passenger In Service	B-5061	28583	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-1563	39221	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-1565	39222	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5248	30626	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5249	33011	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5292	30676	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5805	39199	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5806	39200	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5B10	34299	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5B23	39211	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5B25	39212	0	0	145	145	1
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5268	30662	8	0	124	132	2
Boeing	B73N	700 Winglets	Lucky Air	Airline	China	Passenger In Service	B-5272	30663	8	0	124	132	2
Boeing	B73N	700 Winglets	Luxair	Airline	Luxembourg	Passenger In Service	LX-LGQ	33802	0	0	141	141	1
Boeing	B73N	700 Winglets	Luxair	Airline	Luxembourg	Passenger In Service	LX-LGS	33956	0	0	141	141	1
Boeing	B73N	700 Winglets	Malawian Airlines	Airline	Malawi	Passenger In Service	ET-ARB	30687	0	16	102	118	2
Boeing	B73N	700 Winglets	Mauritania Airlines International	Airline	Mauritania	Passenger In Service	5T-CLC	34263	0	12	102	114	2
Boeing	B73N	700	Meridiana	Airline	Italy	Passenger In Service	EI-FFM	29082	0	0	149	149	1
Boeing	B73N	700	MIAT - Mongolian Airlines	Airline	Mongolia	Passenger Stored	JU-1087	33103	0	12	114	126	2
Boeing	B73N	700 Winglets	Niki	Airline	Austria	Passenger In Service	D-AHXE	35135	0	0	148	148	1
Boeing	B73N	700 Winglets	Niki	Airline	Austria	Passenger In Service	D-AHXF	35136	0	0	148	148	1
Boeing	B73N	700 Winglets	Niki	Airline	Austria	Passenger In Service	D-AHXC	35140	0	0	148	148	1
Boeing	B73N	700 Winglets	Niki	Airline	Austria	Passenger In Service	D-AHXJ	35277	0	0	148	148	1
Boeing	B73N	700 Winglets	Niki	Airline	Austria	Passenger In Service	D-AGEC	36118	0	0	144	144	1
Boeing	B73N	700 Winglets	Primera Air Nordic	Airline	Latvia	Passenger In Service	YL-PSF	28210	0	0	148	148	1
Boeing	B73N	700 Winglets	Primera Air Nordic	Airline	Latvia	Passenger In Service	YL-PSG	30743	0	0	148	148	1
Boeing	B73N	700 Winglets	Regent Airways	Airline	Bangladesh	Passenger In Service	S2-AHD	30714	0	0	148	148	1
Boeing	B73N	700 Winglets	Regent Airways	Airline	Bangladesh	Passenger In Service	S2-AHC	29360	0	12	112	124	2
Boeing	B73N	700 Winglets	Royal Air Maroc	Airline	Morocco	Passenger In Service	CN-RNL	28982	0	12	102	114	2
Boeing	B73N	700 Winglets	Royal Air Maroc	Airline	Morocco	Passenger In Service	CN-RNM	28984	0	12	102	114	2
Boeing	B73N	700 Winglets	Royal Air Maroc	Airline	Morocco	Passenger In Service	CN-RNQ	28985	0	12	102	114	2
Boeing	B73N	700 Winglets	Royal Air Maroc	Airline	Morocco	Passenger In Service	CN-RNR	28986	0	12	102	114	2
Boeing	B73N	700 Winglets	Royal Air Maroc	Airline	Morocco	Passenger In Service	CN-RNV	28988	0	12	102	114	2
Boeing	B73N	700 Winglets	Royal Air Maroc	Airline	Morocco	Passenger In Service	CN-ROD	33062	0	12	102	114	2
Boeing	B73N	700 Winglets	Ruili Airlines	Airline	China	Passenger In Service	B-7088	60462	0	8	149	157	2
Boeing	B73N	700 Winglets	Ruili Airlines	Airline	China	Passenger In Service	B-5811	36873	0	0	144	144	1
Boeing	B73N	700 Winglets	Ruili Airlines	Airline	China	Passenger In Service	B-5812	36874	0	0	144	144	1
Boeing	B73N	700 Winglets	Ruili Airlines	Airline	China	Passenger In Service	B-6109	36116	0	0	144	144	1
Boeing	B73N	700 Winglets	Ruili Airlines	Airline	China	Passenger In Service	B-6110	36117	0	0	144	144	1
Boeing	B73N	700 Winglets	Ruili Airlines	Airline	China	Passenger In Service	B-5829	60460	0	8	126	134	2
Boeing	B73N	700 Winglets	Ruili Airlines	Airline	China	Passenger In Service	B-5830	60461	0	8	126	134	2
Boeing	B73N	700 Winglets	Rwandair	Airline	Rwanda	Passenger In Service	9XR-WJ	30717	0	12	108	120	2
Boeing	B73N	700 Winglets	Rwandair	Airline	Rwanda	Passenger In Service	9XR-WK	30726	0	12	108	120	2
Boeing	B73N	700 Winglets	Ryanair	Airline	Ireland	Passenger In Service	EI-SEV	29078	0	0	144	144	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe)	Passenger In Service	LN-RNN	28315	0	0	141	141	1

Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RNO	28316	0	0	141	141	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RPJ	30192	0	0	141	141	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RRM	28314	0	0	141	141	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service LN-TUA	28211	0	0	141	141	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service LN-TUD	28217	0	0	141	141	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service LN-TUF	28222	0	0	141	141	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service SE-RER	30736	0	0	141	141	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service SE-RES	30737	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RNU	34548	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RNW	34549	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RRR	30471	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RRB	32276	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service LN-TUJ	29095	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service LN-TUK	29096	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service LN-TUL	29097	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service LN-TUM	29098	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-RET	32734	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-REU	33005	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-REX	33418	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-REY	32737	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-REZ	32738	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-RJR	33420	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-RJS	32684	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-RJT	32741	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-RJU	29885	0	0	141	141	1
Boeing	B73N	700 Winglets	SAS	Airline	Multi-National (Europe Passenger	In Service SE-RJX	34754	0	0	141	141	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RPK	28317	0	0	140	140	1
Boeing	B73N	700	SAS	Airline	Multi-National (Europe Passenger	In Service LN-RRN	30191	0	0	140	140	1
Boeing	B73N	700 Winglets	SCAT	Airline	Kazakhstan	Passenger In Service LY-AZV	37233	0	0	149	149	1
Boeing	B73N	700 Winglets	Shandong Airlines	Airline	China	Passenger In Service B-5205	33654	0	0	135	135	1
Boeing	B73N	700 Winglets	Shandong Airlines	Airline	China	Passenger In Service B-5206	33666	0	0	135	135	1
Boeing	B73N	700 Winglets	Shandong Airlines	Airline	China	Passenger In Service B-5207	33663	0	0	135	135	1
Boeing	B73N	700 Winglets	Shanghai Airlines	Airline	China	Passenger In Service B-5298	39743	8	0	126	134	2
Boeing	B73N	700 Winglets	Shanghai Airlines	Airline	China	Passenger In Service B-5808	39305	8	0	126	134	2
Boeing	B73N	700 Winglets	Shanghai Airlines	Airline	China	Passenger In Service B-5826	39313	8	0	126	134	2
Boeing	B73N	700 Winglets	Shanghai Airlines	Airline	China	Passenger In Service B-5827	39315	8	0	126	134	2
Boeing	B73N	700	Shanghai Airlines	Airline	China	Passenger In Service B-2577	30168	8	0	120	128	2
Boeing	B73N	700	Shanghai Airlines	Airline	China	Passenger In Service B-2913	30167	8	0	120	128	2
Boeing	B73N	700 Winglets	Shanghai Airlines	Airline	China	Passenger In Service B-5260	35777	8	0	120	128	2
Boeing	B73N	700 Winglets	Shanghai Airlines	Airline	China	Passenger In Service B-5261	35778	8	0	120	128	2
Boeing	B73N	700 Winglets	Shanghai Airlines	Airline	China	Passenger In Service B-5269	35779	8	0	120	128	2
Boeing	B73N	700 Winglets	Shanghai Airlines	Airline	China	Passenger In Service B-5801	39303	8	0	120	128	2
Boeing	B73N	700	Shenzhen Airlines	Airline	China	Passenger In Service B-2667	30170	0	8	126	134	2
Boeing	B73N	700	Smartwings	Airline	Czech Republic	Passenger In Service OK-SWT	29346	0	0	148	148	1
Boeing	B73N	700	Smartwings	Airline	Czech Republic	Passenger In Service OK-SWW	28254	0	0	148	148	1
Boeing	B73N	700 Winglets	SonAir	Airline	Angola	Passenger In Service D2-EVW	35954	0	0	128	128	1
Boeing	B73N	700 Winglets	SonAir	Airline	Angola	Passenger In Service D2-EWS	35956	0	0	128	128	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N200WN	32482	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N201LV	29854	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N202WN	33999	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N203WN	32483	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N204WN	29855	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N205WN	34010	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N206WN	34011	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N207WN	34012	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N208WN	29856	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N209WN	32484	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N210WN	34162	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N211WN	34163	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N212WN	32485	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N213WN	34217	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N214WN	32486	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N215WN	32487	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N216WR	32488	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N217JC	34232	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N218WN	32489	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N219WN	32490	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N220WN	32491	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N221WN	34259	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N222WN	34290	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N223WN	32492	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N224WN	32493	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N225WN	34333	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N226WN	32494	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N227WN	34450	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N228WN	32496	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N229WN	32498	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N230WN	34592	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N231WN	32499	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N232WN	32500	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N233LV	32501	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N234WN	32502	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N235WN	34630	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N236WN	34631	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N237WN	34632	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N238WN	34713	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N239WN	34714	0	0	143	143	1
Boeing	B73N	700 Winglets	Southwest Airlines	Airline	United States	Passenger In Service N240WN	32503	0	0	143	143	1

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	In Service	N963WN	36676	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	In Service	N964WN	36965	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	In Service	N965WN	36677	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	In Service	N966WN	36966	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	In Service	N967WN	36967	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	In Service	N968WN	36679	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	Stored	N7855A	29357	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	Stored	N7856A	30630	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	Stored	N7857B	29358	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	Stored	N7858A	29361	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	Stored	N7859B	30641	0	0	143	143	1
Boeing	B73N	700	Winglets	Southwest Airlines	Airline	United States	Passenger	Stored	N7860A	29362	0	0	143	143	1
Boeing	B73N	700	Winglets Scii	Southwest Airlines	Airline	United States	Passenger	In Service	N267WN	32525	0	0	143	143	1
Boeing	B73N	700	Winglets Scii	Southwest Airlines	Airline	United States	Passenger	In Service	N280WN	32533	0	0	143	143	1
Boeing	B73N	700	Winglets Scii	Southwest Airlines	Airline	United States	Passenger	In Service	N555LV	36726	0	0	143	143	1
Boeing	B73N	700	Winglets Scii	Southwest Airlines	Airline	United States	Passenger	In Service	N7744A	33931	0	0	143	143	1
Boeing	B73N	700	Winglets Scii	Southwest Airlines	Airline	United States	Passenger	In Service	N7748A	36399	0	0	143	143	1
Boeing	B73N	700	Winglets Scii	Southwest Airlines	Airline	United States	Passenger	In Service	N962WN	36963	0	0	143	143	1
Boeing	B73N	700	Winglets Scii	Southwest Airlines	Airline	United States	Passenger	In Service	N969WN	41777	0	0	143	143	1
Boeing	B73N	700	Winglets	SpiceJet	Airline	India	Passenger	In Service	VT-SLA	34759	0	0	149	149	1
Boeing	B73N	700	Winglets	SpiceJet	Airline	India	Passenger	In Service	VT-SLB	34760	0	0	149	149	1
Boeing	B73N	700		Sun Country Airlines	Airline	United States	Passenger	In Service	N713SY	30635	12	0	117	129	2
Boeing	B73N	700	Winglets	Sun Country Airlines	Airline	United States	Passenger	In Service	N710SY	30241	12	0	117	129	2
Boeing	B73N	700	Winglets	Sun Country Airlines	Airline	United States	Passenger	In Service	N711SY	30245	12	0	117	129	2
Boeing	B73N	700	Winglets	Sun Country Airlines	Airline	United States	Passenger	In Service	N714SY	33786	12	0	117	129	2
Boeing	B73N	700	Winglets	Sun Country Airlines	Airline	United States	Passenger	In Service	N715SY	33787	12	0	117	129	2
Boeing	B73N	700	Winglets	Sun Country Airlines	Airline	United States	Passenger	In Service	N716SY	30629	12	0	117	129	2
Boeing	B73N	700	IGW QC Win	TAAG Angola Airlines	Airline	Angola	Passenger	In Service	D2-TBK	35955	0	12	108	120	2
Boeing	B73N	700	Winglets	TAAG Angola Airlines	Airline	Angola	Passenger	In Service	D2-TBG	34560	0	12	108	120	2
Boeing	B73N	700	Winglets	TAAG Angola Airlines	Airline	Angola	Passenger	In Service	D2-TBH	34561	0	12	108	120	2
Boeing	B73N	700	Winglets	TAAG Angola Airlines	Airline	Angola	Passenger	In Service	D2-TBJ	34562	0	12	108	120	2
Boeing	B73N	700	Winglets	TAAG Angola Airlines	Airline	Angola	Passenger	Stored	D2-TBF	34559	0	12	108	120	2
Boeing	B73N	700	Winglets	TAROM	Airline	Romania	Passenger	In Service	YR-BGF	28440	0	14	102	116	2
Boeing	B73N	700	Winglets	TAROM	Airline	Romania	Passenger	In Service	YR-BGG	28442	0	14	102	116	2
Boeing	B73N	700	Winglets	TAROM	Airline	Romania	Passenger	In Service	YR-BGH	28438	0	14	102	116	2
Boeing	B73N	700	Winglets	TAROM	Airline	Romania	Passenger	In Service	YR-BGI	28439	0	14	102	116	2
Boeing	B73N	700	Winglets	Texel Air	Airline	Bahrain	Passenger	Stored	N393AG	30293	0	8	124	132	2
Boeing	B73N	700	Winglets	Trans Air Congo	Airline	Congo	Passenger	In Service	TN-TAC	30674	8	0	124	132	2
Boeing	B73N	700	Winglets	Transavia Airlines	Airline	Netherlands	Passenger	In Service	PH-XRA	30784	0	0	149	149	1
Boeing	B73N	700	Winglets	Transavia Airlines	Airline	Netherlands	Passenger	In Service	PH-XRB	28256	0	0	149	149	1
Boeing	B73N	700	Winglets	Transavia Airlines	Airline	Netherlands	Passenger	In Service	PH-XRC	29347	0	0	149	149	1
Boeing	B73N	700	Winglets	Transavia Airlines	Airline	Netherlands	Passenger	In Service	PH-XRD	30659	0	0	149	149	1
Boeing	B73N	700	Winglets	Transavia Airlines	Airline	Netherlands	Passenger	In Service	PH-XRV	34170	0	0	149	149	1
Boeing	B73N	700	Winglets	Transavia Airlines	Airline	Netherlands	Passenger	In Service	PH-XRX	33464	0	0	149	149	1
Boeing	B73N	700	Winglets	Transavia Airlines	Airline	Netherlands	Passenger	In Service	PH-XRY	33463	0	0	149	149	1
Boeing	B73N	700	Winglets	Transavia Airlines	Airline	Netherlands	Passenger	In Service	PH-XRZ	33462	0	0	149	149	1
Boeing	B73N	700	Winglets	TUI fly	Airline	Belgium	Passenger	In Service	OO-JAL	30668	0	0	149	149	1
Boeing	B73N	700	Winglets	TUI fly	Airline	Belgium	Passenger	In Service	OO-JAO	35141	0	0	148	148	1
Boeing	B73N	700	Winglets	TUI fly	Airline	Belgium	Passenger	In Service	OO-JAR	35150	0	0	148	148	1
Boeing	B73N	700	Winglets	TUI fly	Airline	Belgium	Passenger	In Service	OO-JAS	35144	0	0	148	148	1
Boeing	B73N	700	Winglets	TUI fly	Airline	Belgium	Passenger	In Service	OO-JOS	35282	0	0	148	148	1
Boeing	B73N	700	Winglets	Turkish Airlines	Airline	Turkey	Passenger	In Service	TC-JKO	34300	0	12	112	124	2
Boeing	B73N	700	Winglets	Turkmenistan Airlines	Airline	Turkmenistan	Passenger	In Service	EZ-A006	37236	0	8	120	128	2
Boeing	B73N	700	Winglets	Turkmenistan Airlines	Airline	Turkmenistan	Passenger	In Service	EZ-A008	37237	0	-8	120	128	2
Boeing	B73N	700	Winglets	Turkmenistan Airlines	Airline	Turkmenistan	Passenger	In Service	EZ-A009	37235	0	8	120	128	2
Boeing	B73N	700	Winglets	Turkmenistan Airlines	Airline	Turkmenistan	VIP / Head	In Service	EZ-A007	37234	0	8	120	128	2
Boeing	B73N	700	Winglets	United Airlines	Airline	United States	Passenger	In Service	N15751	29047	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N12754	30464	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N13716	28787	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N13718	28937	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N13720	28939	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N13750	28941	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N14704	28765	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N14731	28799	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N14735	28950	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N15710	28780	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N15712	28783	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N16701	28762	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N16703	28764	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N16709	28779	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N16713	28784	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N16732	28948	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N17719	28938	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N17730	28798	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N17752	29048	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N17753	30463	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N21723	28790	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N23707	28768	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N23708	28769	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N23721	28940	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N24702	28763	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N24706	28767	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N24715	28786	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N24729	28945	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N24736	28803	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N25705	28766	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N27722	28789	12	0	106	118	2
Boeing	B73N	700	Winglets Scii	United Airlines	Airline	United States	Passenger	In Service	N27724	28791	12	0	106	118	2

Boeing	B73N	700	Winglets Scii United Airlines	Airline	United States	Passenger	In Service	N27733	28800	12	0	106	118	2
Boeing	B73N	700	Winglets Scii United Airlines	Airline	United States	Passenger	In Service	N27734	28949	12	0	106	118	2
Boeing	B73N	700	Winglets Scii United Airlines	Airline	United States	Passenger	In Service	N29717	28936	12	0	106	118	2
Boeing	B73N	700	Winglets Scii United Airlines	Airline	United States	Passenger	In Service	N33714	28785	12	0	106	118	2
Boeing	B73N	700	Winglets Scii United Airlines	Airline	United States	Passenger	In Service	N38727	28797	12	0	106	118	2
Boeing	B73N	700	Winglets Scii United Airlines	Airline	United States	Passenger	In Service	N39726	28796	12	0	106	118	2
Boeing	B73N	700	Winglets Scii United Airlines	Airline	United States	Passenger	In Service	N39728	28944	12	0	106	118	2
Boeing	B73N	700	Winglets Scii United Airlines	Airline	United States	Passenger	In Service	N54711	28782	12	0	106	118	2
Boeing	B73N	700	Winglets Virgin Australia	Airline	Australia	Passenger	In Service	VH-VBY	34323	0	8	120	128	2
Boeing	B73N	700	Winglets Virgin Australia	Airline	Australia	Passenger	In Service	VH-VBZ	34322	0	8	120	128	2
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FBWW	32767	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FBWS	37088	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FEWJ	32769	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FGWJ	32764	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FIBW	37956	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FIWJ	30712	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FIWS	32404	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FJWS	28651	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FKIW	37955	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FKWS	30134	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FLWJ	38096	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FMWJ	32771	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FTWJ	30713	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FUWS	32765	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FWCN	33698	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FWSF	32758	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FWSI	36691	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FWSK	36420	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FWSO	32759	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FWSV	32760	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FWSX	32761	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FWSY	32762	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FXWJ	32768	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-FZWS	32731	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GCWI	33970	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GGWJ	35503	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GLWS	32581	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GMWJ	35985	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GQWJ	35505	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GRWS	32881	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GSWS	37423	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GTWS	32883	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GUWJ	36422	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GUWS	33378	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GVWJ	36421	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWAZ	32763	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWBF	32757	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWBJ	32754	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWBN	34155	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWBT	32755	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWBX	34156	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWCM	32756	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWCN	34157	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWJE	35078	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWJF	32766	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWJG	35504	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWJO	33969	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWJT	40338	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWSH	29886	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWSN	37089	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWSO	37090	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWSP	36693	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWSQ	37091	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWSU	36689	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GWSY	37421	0	0	130	130	1
Boeing	B73N	700	Winglets WestJet	Airline	Canada	Passenger	In Service	C-GYWJ	32772	0	0	130	130	1
Boeing	B73N	700	Winglets Wingo	Airline	Panama	Passenger	In Service	HP-1371C	30049	0	0	142	142	1
Boeing	B73N	700	Winglets Wingo	Airline	Panama	Passenger	In Service	HP-1372C	28607	0	0	142	142	1
Boeing	B73N	700	Winglets Wingo	Airline	Panama	Passenger	In Service	HP-1376C	30497	0	0	142	142	1
Boeing	B73N	700	Winglets Wingo	Airline	Panama	Passenger	In Service	HP-1377C	30462	0	0	142	142	1
Boeing	B73N	700	Winglets Wingo	Airline	Panama	Passenger	In Service	HP-1378C	30461	0	0	142	142	1
Boeing	B73N	700	Winglets Wingo	Airline	Panama	Passenger	In Service	HP-1524C	33705	0	0	142	142	1
Boeing	B73N	700	Winglets Wingo	Airline	Panama	Passenger	In Service	HP-1525C	33706	0	0	142	142	1
Boeing	B73N	700	Xiamen Airlines	Airline	China	Passenger	In Service	B-5028	30034	8	0	120	128	2
Boeing	B73N	700	Xiamen Airlines	Airline	China	Passenger	In Service	B-5029	30634	8	0	120	128	2
Boeing	B73N	700	Xiamen Airlines	Airline	China	Passenger	In Service	B-5038	30656	8	0	120	128	2
Boeing	B73N	700	Xiamen Airlines	Airline	China	Passenger	In Service	B-5039	28258	8	0	120	128	2
Boeing	B73N	700	Winglets Xiamen Airlines	Airline	China	Passenger	In Service	B-5216	34026	8	0	120	128	2
Boeing	B73N	700	Winglets Xiamen Airlines	Airline	China	Passenger	In Service	B-5218	34027	8	0	120	128	2
Boeing	B73N	700	Winglets Xiamen Airlines	Airline	China	Passenger	In Service	B-5219	34028	8	0	120	128	2
Boeing	B73N	700	Winglets Xiamen Airlines	Airline	China	Passenger	In Service	B-5277	38381	8	0	120	128	2
Boeing	B73N	700	Winglets Xiamen Airlines	Airline	China	Passenger	In Service	B-5278	38383	8	0	120	128	2
Boeing	B73N	700	Winglets Xiamen Airlines	Airline	China	Passenger	In Service	B-5279	38384	8	0	120	128	2
Boeing	B73N	700	Winglets Xiamen Airlines	Airline	China	Passenger	In Service	B-5280	38385	8	0	120	128	2

EXHIBIT 13

BUSINESS PROPRIETARY DOCUMENT
NOT SUSCEPTIBLE TO SUMMARIZATION

EXHIBIT 14



The Changing Scope Clause Environments

July 11th, 2017

The Changing Scope Clause Environments

Led by ISTAT Certified Appraisers with decades of industry experience, mba's Valuation Team has earned their reputation as a world leader in asset valuations for a variety of clients, both public and private. Considering each and every client as their most important relationship, mba delivers accurate asset valuations while remaining available for conference and discussion whenever necessary.

One of the major undercurrents in the U.S. airline industry today is the changing relationship between the legacy airlines and the regional airlines that feed into their networks. The relationship between regional carriers and their larger US counterparts has been dependable for 20 years, but that is all poised to change as the status quo is facing challenges in airlines evolving business dynamics. As noted in mba insights *The Pilot Shortage: A Current and Future Threat* (March 13, 2017), the industry is feeling the impact from diminishing available pilot numbers; this reality paired with record airline profits, and exploding demand in the travel industry have placed pilot union negotiators working on behalf of legacy airlines in a uniquely strong position. To add context, these same legacy airlines, now gaining leverage in negotiations, have often held the view that for 15 years low cost regional airlines were being given routes/operations that should be or belonged within the purview of legacy carriers. Now, major airline's labor is poised to bring as much of that flying into the mainline operations by using more restrictive scope clause language. In turn, the shrinking regional airline marketplace will place more competitive pressure on smaller airlines already struggling to recruit pilots and maintain market share. This mba insight will cover these dynamics in a brief analysis below, exploring the history behind scope clauses, explaining current trends in the U.S. airline industry, and the likely effects that scope clause restrictions will have on regional airline aircraft deliveries going forward.

Scope Language – Crucial to any Pilot's Contract

Most airline pilot groups in the U.S. are unionized and work under a collective bargaining agreement (CBA) or a pilot working agreement. These contracts are negotiated with the management of their respective air carriers and their language determines the scope of impact and the parties' roles in any event or change that could possibly affect the careers of the pilots, as well as the property or operations of the airlines. Most importantly, the Scope Language; the scope of the contract defines what type of flying is covered by the CBA, determines what flying remains outside the coverage of the agreement, and under which circumstances the airlines may use "lift" from other carriers. Scope clauses can be viewed as protective in nature, ensuring the larger airline pilot jobs are maintained, but a major effect of the agreements to date have been the type of relief or allowance also granted under the scope language to the regional operators, terms that in essence supports the existence of regional airlines in the U.S.

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- ✓ **Experienced
Technical and Asset
Management Team**

**Robert Agnew
President & CEO**



**David Tokoph
Chief Operating Officer**



A Brief History of Scope – A Concept Born of Necessity and Crisis

When we consider large airline companies in the United States, it is helpful to classify them by three categories: Legacy airlines, major airlines, and regional airlines. Legacy airlines—American Airlines, Delta Air Lines, and United Airlines—are large passenger carriers with corporate lineage well before deregulation. Legacy carriers are hub based and are fed by a network of subsidiary carriers known as regional airlines operating smaller aircraft. Major Airlines include the likes of Southwest Airlines, Spirit, and JetBlue. While they may operate large hub facilities, their distinction from Legacy carriers is that Majors do not utilize affiliate regionals to feed passengers into their operations.

The legacy airline/regional airline relationship dates back to 1967, when the Civil Aeronautics Board (predecessor to the FAA) allowed large airlines to transfer unprofitable routes under their control to subcontracted airlines with smaller aircraft. We now refer to this practice as codesharing, but at the time this arrangement between operators was new for the industry; large airlines begin using subcontractors flying smaller aircraft, but they were operated under the major airline's brand for "thin routes" more economically. Pilots at the large airlines were willing to provide scope relief for these operations; particularly as the small aircraft pay rates were low enough that senior pilots had little interest in servicing those flights.

By 1972, the CAB had relaxed the regulations sufficiently to allow commuter airlines to operate aircraft with as many as 30 seats. Major and national airline pilot groups, experiencing the impact of the energy crisis and exploding inflation that characterized 1970s, were willing to grant further scope clause relief to allow their companies to stay afloat.

Airline deregulation in 1978 led to significant industry turbulence, eventually causing much of the industry to consolidate into the legacy airlines that we have today. This was an opportunity for small regional airlines; as not only were the old CAB seat caps a thing of the past, but the legacy airlines no longer received subsidies to operate unprofitable routes. Many of these routes were transferred to the regional airlines, giving rise to the now familiar hub-and-spoke system of operation. Regional airlines were effectively employed to increase the overall power of the hub; with the purpose of getting more passengers into the hub airports, thus driving up system revenue passenger miles. The regionals were paid by the legacy airlines in a fee-for-departure scheme that wasn't dependent on load factor. Scope clauses were further relaxed to support this business model; 50 seat turboprop aircraft (and larger) were regularly employed in the service of regional airlines.

Throughout the 1990s and 2000s, the scope clause restrictions in the CBA's of the legacy airlines were relaxed even further. The Gulf War, 9/11, and the War on Terrorism in Iraq and Afghanistan lent an air of cyclical instability to the airline industry. In order to drive down costs and feed the hubs, the legacy airlines entered into more code sharing agreements for even larger aircraft. The 1990s saw the advent of 50 seat regional jets which were flown in large numbers. By the early 2000s, 70 seat and larger regional jets (CRJ 700, CRJ 900, and ERJ-170/175) began to become commonplace. Faced with high oil prices, a brutal competitive environment, and the threat of furloughs, legacy airline pilot union negotiators faced little choice but to acquiesce to further scope clause relief.

Anne Correa
Director – Business
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Director – Business
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Analysis



What had begun as a method of maintaining a foothold in an unprofitable market by using small turboprops had grown into an outsourcing business model that saw aircraft with up to 90 seats flying routes of 1,400 nm and more. In 2005, the regional airlines outpaced their major airline partners, billion revenue passenger miles¹.

Current Scope Clause Restrictions

Today's CBA scope clause restrictions are complicated; they commonly dictate the number of regional airline aircraft that can be engaged as a function of a ratio to mainline aircraft, limit hub to hub regional airline operations, impose statute mile limits on the routes that regional airline aircraft can fly, and restrict the number of block hours that can be flown by the regionals as a percentage of total system block hours. Legacy airlines are wary of exceeding these limitations, as the CBAs generally impose significant penalties on the carrier for allowing subsidiary flying beyond the contractual limit. Even more significantly for future deliveries of regional airline aircraft, the CBA scope clauses impose maximum gross takeoff weight (MGTOV) restrictions on new aircraft operated by their regional partners; American Airlines, United Airlines, and Delta Air Lines pilots all restrict aircraft operated by their regional affiliates to 86,000 lbs. MGTOV.

Summary of Major Airline Scope Clause Restrictions

	37 Seat Turboprops	50 Seat Aircraft	70 Seat Aircraft	76 Seat Aircraft
Delta Air Lines	YES	Up to 348 aircraft ¹	Up to 102 aircraft	Up to 153 aircraft ²
United Airlines³	YES	Up to a number equal to 90% of the UAL single aisle fleet	Up to 255 70 and 76 seat aircraft	Up to 255 70 and 76 seat aircraft, not to exceed 153 76 seat aircraft
American Airlines⁴	YES	YES	Above 65 seats, a number not to exceed 40% of the mainline narrowbody fleet	Above 65 seats, a number not to exceed 40% of the mainline narrowbody fleet ⁵

1. Reduced by 2.3 to 4.6 aircraft per 76 seat aircraft added to the regional fleet.

2. May be increased to 233 with the introduction of a new small narrowbody aircraft to the Delta Air Lines Fleet.

3. 80% of United Express flying must be under 800 nm.

4. The total number of regional aircraft with greater than 30 seats cannot exceed 75% of the active mainline narrowbody fleet.

5. The 76 CRJ-900 and ERJ-175 aircraft and their successors seating 79-80 passengers that were part of the U.S. Airways system are grandfathered in.

EXHIBIT 15



CURRENT MARKET OUTLOOK

2017-2036



airlines that retain them, flying relatively few hours in peak season to provide extra lift when oil prices are sufficiently low. The presence of these older models does not reduce the need for core fleet replacement; it provides a way to make a bit of extra profit in high season.

- **Competitive market.** When airlines compete head to head in a market, the airline with the lowest unit cost can set the price. If the cost differential is large enough, the price set by the lowest-cost competitor may be insufficient to yield a profit for the higher-cost competitor. When one airline begins operating a newer, lower-unit-cost airplane on a route, its competitors risk facing prices that are unsustainable in the long term and thus have an incentive to also upgrade to the lower-unit-cost equipment.

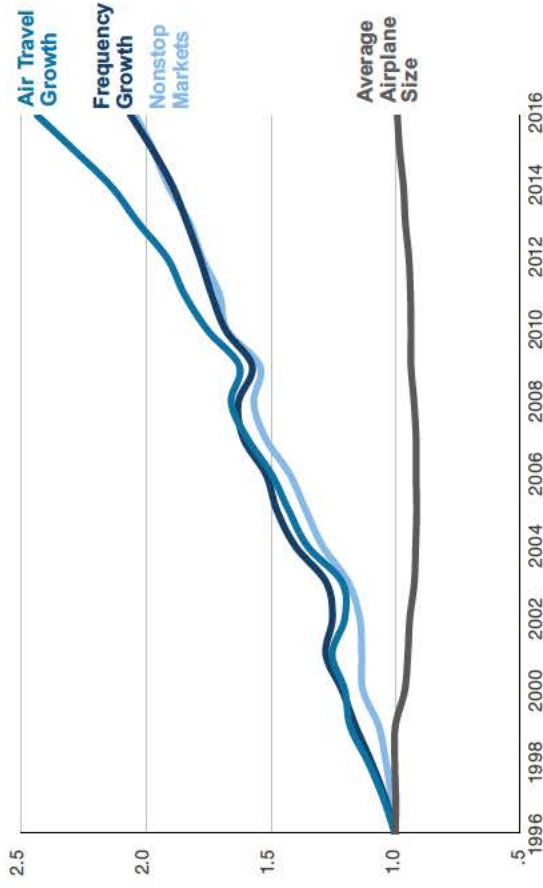
Replacing an airline's fleet is not a short-term decision driven by oil price fluctuations but rather a long-term investment based on multiple factors. While lower oil prices make the short-term economics of fleet renewal somewhat less compelling, the long-term dynamics of fleet management make a strong case for airlines to continue replacing older airplanes.

SINGLE-AISLE AIRPLANES MAKE UP THE MAJORITY OF THE GLOBAL MARKET

Today, 64 percent of the world jet fleet is single-aisle airplanes. Over the next 20 years, this share will increase to account for about 69 percent of the global fleet, more than 32,000 passenger airplanes in 2036.

A number of factors drive the robust global demand for new single-aisle airplanes. First, single-aisle airplanes are the backbone of the low-cost business model strategy that is growing around the world. In addition, strong replacement needs in more mature aviation markets and robust overall growth in emerging markets are driving increased demand for single-aisle airplanes. Asia

Air travel growth has been met by increased frequencies and nonstops



Source: August 2016 OAG/Innovata (Index 1996 = 1.00)

Pacific, Europe, and North America are the three largest market regions for new single-aisle airplanes, and they represent nearly 80 percent of all single-aisle demand.

Low-cost carriers' expansion is anticipated to increase their fleet share in the single-aisle category from roughly one-quarter to one-third of the globe, representing approximately 11,000 single-aisle jets in the commercial fleet over the next 20 years. Yet network carriers will continue to drive more than 60 percent of new passenger airplane demand, representing more than 20,000 airplanes in the fleet in 2036.

NEW TECHNOLOGY, MORE FRAGMENTATION IN THE WIDEBODY MARKET

As air travel continues to grow, airlines have a choice about how they want to grow their businesses. They can accommodate that growth with increases in airplane capacity and size, or they can add more frequencies and nonstop markets to their networks. Passengers prefer

the latter because of the increased flexibility and more efficient itineraries they offer. This trend is reflected in the profile of the widebody fleet and delivery forecasts.

As airlines continue to focus on versatility, we have seen airlines increasingly move from large to medium and small widebody passenger airplanes. In 1996, the large-size passenger widebody airplanes accounted for 32 percent of the in-service fleet. Today, that number has declined to 11 percent. By 2036, we anticipate the large segment will be less than 5 percent of the passenger widebody fleet.

Today, the global widebody passenger fleet stands at roughly 4,100 airplanes. The forecast shows the need for approximately 8,200 new widebody deliveries for passenger service over the next 20 years. Sixty percent of these passenger widebody deliveries are in the small category and will contribute to the growth of the small widebody segment from 55 percent of all passenger widebody airplanes today to 63 percent by 2036.