# **Bombardier Aerospace**

**Regional and Commercial Aircraft Overview** 



#### 2008 JPMorgan Aviation and Transportation Conference

Presented by: Barry MacKinnon

**Regional VP – Markets and Airline Analysis** 

**Bombardier Regional Aircraft** 

March 18, 2008

**New York** 





## **Forward-looking Statements**

This presentation includes forward-looking statements. Forward-looking statements generally can be identified by the use of forward-looking terminology such as "may", "will", "expect", "intend", "anticipate", "plan", "foresee", "believe" or "continue" or the negatives of these terms or variations of them or similar terminology. By their nature, forward-looking statements require Bombardier Inc. (the "Corporation") to make assumptions and are subject to important known and unknown risks and uncertainties, which may cause the Corporation's actual results in future periods to differ materially from forecasted results. While the Corporation considers its assumptions to be reasonable and appropriate based on current information available, there is a risk that they may not be accurate. For additional information with respect to the assumptions underlying the forward-looking statements made in this presentation, please refer to the respective sections of the Corporation's aerospace segment ("Aerospace") and the Corporation's transportation segment ("Transportation") in the F07 MD&A.

Certain factors that could cause actual results to differ materially from those anticipated in the forward-looking statements, include risks associated with general economic conditions, risks associated with the Corporation's business environment (such as the financial condition of the airline industry, government policies and priorities and competition from other businesses), operational risks (such as regulatory risks and dependence on key personnel, risks associated with doing business with partners, risks involved with developing new products and services, warranty and casualty claim losses, legal risks from legal proceedings, risks relating to the Corporation's dependence on certain key customers and key suppliers, risks resulting from fixed-term commitments, human resource risk, and environmental risk), financing risks (such as risks resulting from reliance on government support, risks relating to financing support provided on behalf of certain customers, risks relating to liquidity and access to capital markets, risks relating to the terms of certain restrictive debt covenants and market risks (including currency, interest rate and commodity pricing risk) – see the Risks and Uncertainties section in the F07 MD&A. 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. The forward-looking statements set forth herein reflect the Corporation's expectations as at the date of this presentation and are subject to change after such date. Unless otherwise required by applicable securities laws, the Corporation expressly disclaims any intention, and assumes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

All amounts are expressed in U.S. dollars unless otherwise stated.



# Agenda



#### **About Bombardier**



- **Airline Market Outlook**
- **3 Regional Aircraft Overview**
- 4
- **C** Series Overview



Conclusion



# **Bombardier: Fields of Activity**

#### Aerospace



FY07 revenues: \$8.2 billion 56% of total revenues Backlog: \$13.2 billion\* Employees: 27,130\*

## Transportation



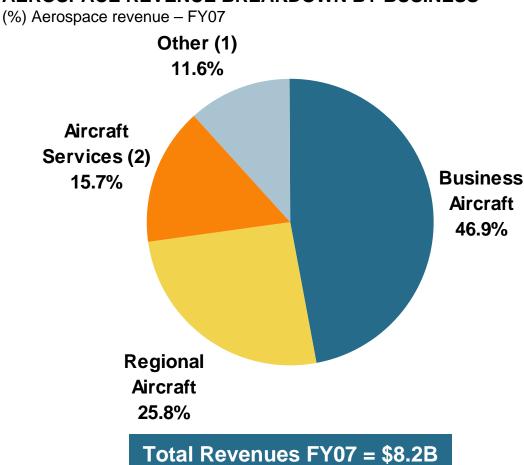
FY07 revenues: \$6.6 billion 44% of total revenues Backlog: \$27.5 billion\* Employees: 29,100\*

\*As at January 31, 2007

Bombardier's fiscal year ends on Jan. 31



## **Bombardier Aerospace** Balanced Portfolio of Products and Services



#### **AEROSPACE REVENUE BREAKDOWN BY BUSINESS**

(1) Other includes primarily other manufacturing (eg, Amphibious, sub-contract) and pre-owned aircraft sales

(2) Services include Aircraft Services and Flexjet revenues

Source: Bombardier 2007 Annual Report

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## **Bombardier's Business Aircraft** Portfolio Centred on Three Families



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# **Bombardier Business Aircraft**

- Overall market continues to be strong
  - 452 new orders obtained during FY08 vs 274 in F07 70% from international (non-U.S.) markets
  - 232 deliveries in FY08 vs. 212 in FY07
- Strong backlog; book-to-bill ratio of 1.95
- Well-positioned with a product line covering 97% of the market
- Market share leader (based on revenue) since 2004



# Agenda





3

#### Airline Market Outlook

**Regional Aircraft Overview** 

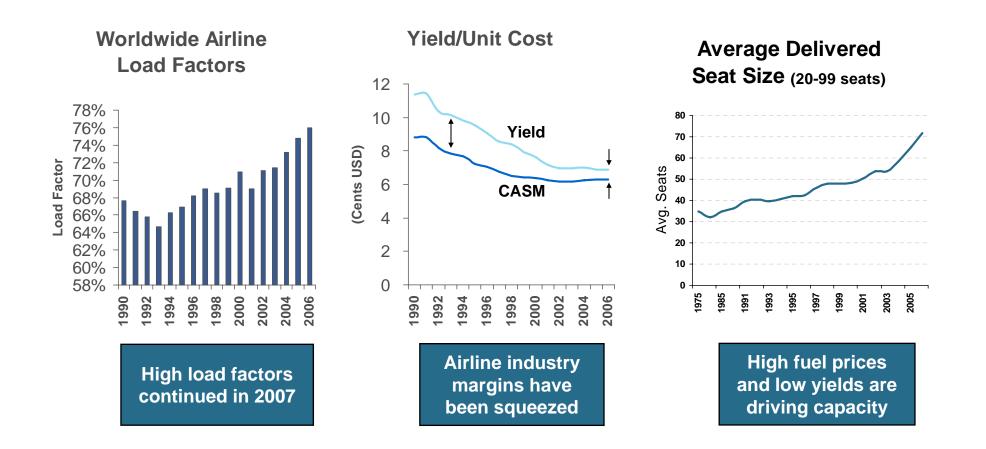


**C** Series Overview



**Conclusion** 

# **Regional Airlines Grew in 2007 by Adding Larger Capacity Aircraft**

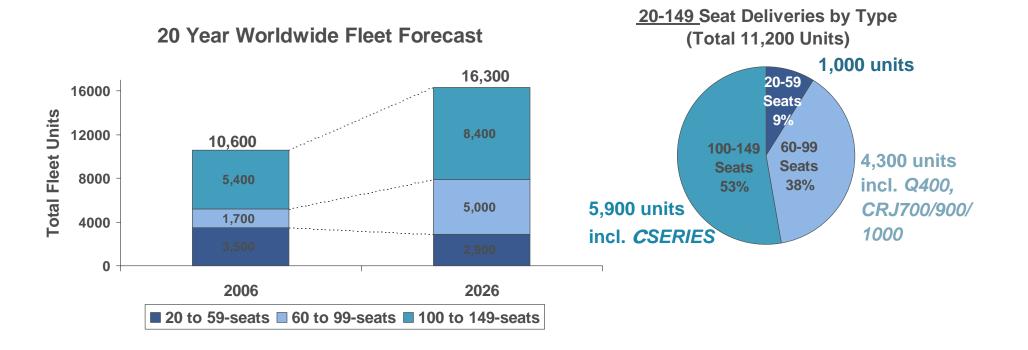


Sources: Airline Monitor Jan/Feb 2007, Air Transport Association of America, BACK Aviation, OAG



# Bombardier's Commercial Aircraft Forecast Shows the Continued Trend to Larger Aircraft

#### Bombardier Worldwide Aircraft Delivery Forecast 2007-2026 <u>11,200 unit Deliveries (20-149 seats)</u>

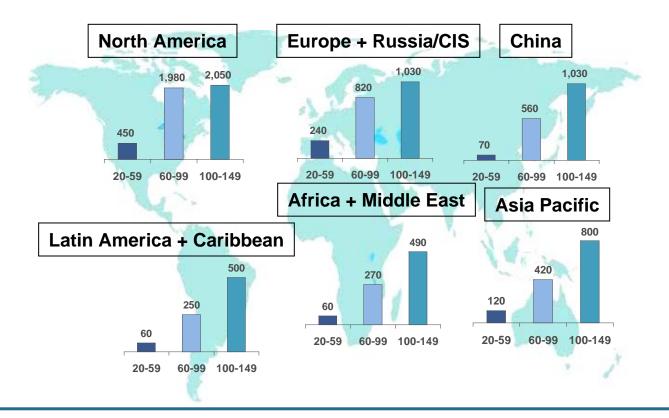


Source: Bombardier Commercial Aircraft Forecast - 2007



# **20-149 Seat Aircraft Deliveries Forecast to Have Greater Geographic Diversity**

Worldwide Distribution of 20 Year Aircraft Deliveries (20-149 Seat Aircraft) Total Forecast Deliveries: 11,200



Source: Bombardier Commercial Aircraft Market Forecast – 2007



# Agenda





- Airline Market Outlook
- **3** Regional Aircraft Overview



**C** Series Overview



Conclusion



## **Bombardier Regional Aircraft** The Strongest Regional Jet and Turboprop Brands





CRJ, *CRJ200, CRJ700, CRJ705, CRJ900, CRJ1000, Q100/200, Q300 and Q400* are trademarks of Bombardier Inc. or its subsidiaries.



# **Bombardier: The Market Leader in Regional Aircraft**





<u>CRJ Series</u> 1,626 Firm Orders 1,471 Delivered

155 Backlog

**62 Customers** 

**Q** Series

951 Firm Orders

844 Delivered

**107 Backlog** 

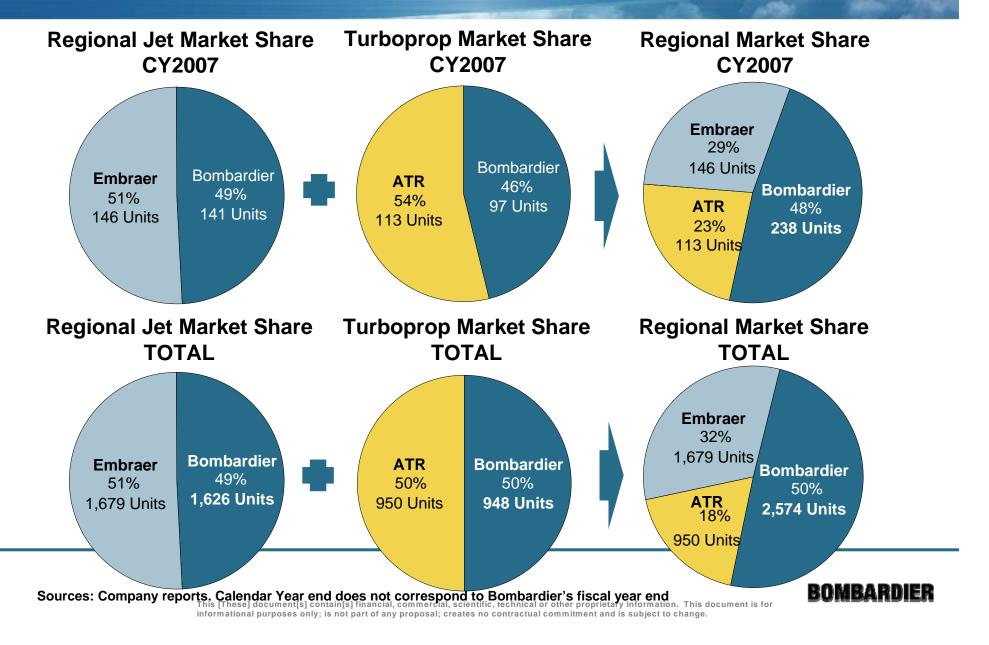
**111 Customers** 

CRJ Series and Q Series are trademarks of Bombardier Inc. or its subsidiaries.

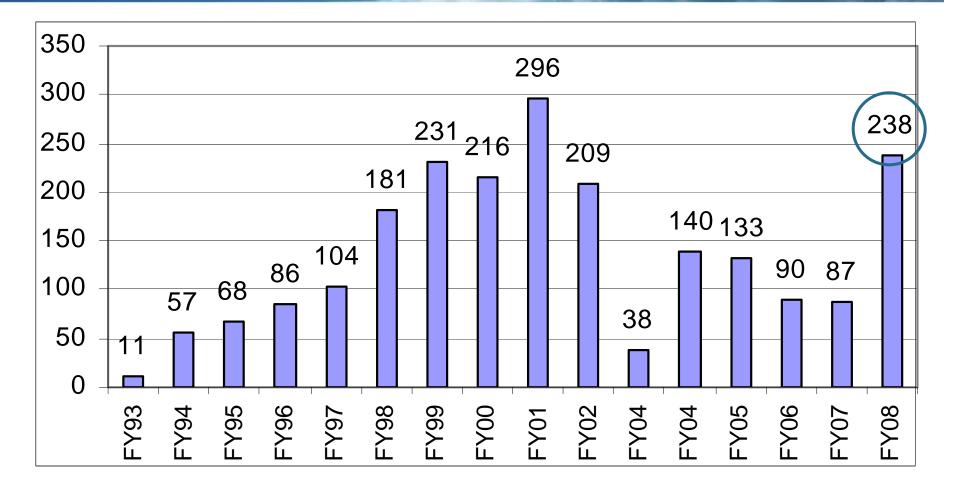
Program Status as of January 31, 2008. Includes Corporate variants.



## Strong Order Market Share Performance in CY2007 Net Orders – as of December 31, 2007



# Strong Order Intake by Bombardier Regional Aircraft During FY2007/08



#### 238 Firm Orders in FY2007/08 Valued at \$7.5 Billion (Based on List Prices)

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# **Our Customer Base Expanded Considerably in FY2007/08**

#### **10 New Bombardier Customers**

- Alma 2 CRJ900 (Mexico)
- Pluna 7 CRJ900 (Uruguay)
- Undisclosed 1 Q400
- Icelandic Coast Guard 1 Q300 (Iceland)
- **Croatia Airlines** 4 Q400 (Croatia)
- Undisclosed 10 Q400 (Europe)
- Sevenair 1 CRJ900 (Tunisia)
- Libyan Airlines 3 CRJ900 (Libya)
- Tatarstan Airlines 6 CRJ900 (Russia)
- **Air Philippines** 3 Q300 (Philippines)

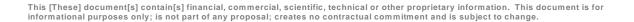
#### **11 Existing Customers New to Type**

- Delta 44 CRJ900 (USA) including (assigned to)
  - **Comair** 14 CRJ900
  - Pinnacle 16 CRJ900
  - Mesa 14 CRJ900
- Pinnacle (Colgan Air) 15 Q400 (USA)
- Brit Air 8 CRJ1000 (France)
- MyAir 15 CRJ1000 (Italy)
- Adria 1 CRJ1000 (Slovenia)
- Arik Air 4 Q400 (Nigeria)
- **Tassili** 4 Q200 (Algeria)
- Undisclosed 2 Q400
- Undisclosed 1 Q400
- Undisclosed 15 CRJ1000



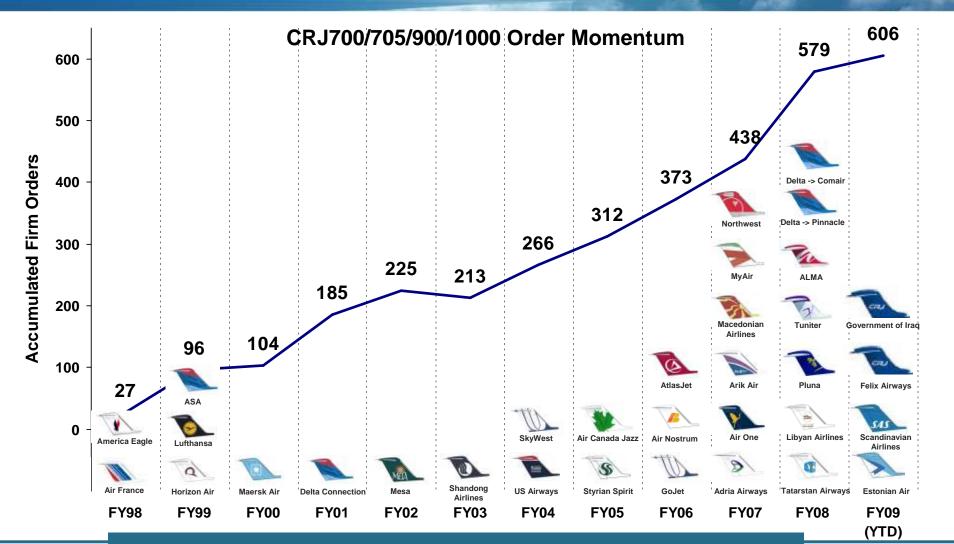
# **CRJ Series - The Most Successful Regional Jet Family**

✓ Fastest ✓ Quietest ✓ Lowest-Cost





# CRJ700/705/900/1000 Continue to Build Momentum (as of March 14, 2008)



141 Firm Orders and 7 New Operators in FY2007/08 27 Firm Orders and 4 New Operators So Far in F09!

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## **CRJ NextGen Launched in 2007** Making the Leading RJ Family Even Better



#### **Improved Economics**

4% Lower Fuel Burn
9% Lower Airframe DMCs
Weight Reduction Programs
8-15% Better Trip Costs than Closest Competitor
More Environmentally Friendly

Reduced CO<sub>2</sub> Lower Exterior Noise Improved Fuel Efficiency

# Y Enhanced Passenger Experience

New Interior, Larger Bins, Larger Windows LED Lighting



# The CRJ NextGen Interior - Bigger. Brighter. Better.

1 11100

"Cool" LED Lighting

Larger Overhead Bins Up to 27% more roller bag stowage 40% increase in bin weight capacity

> Larger Windows 24% increase in viewing area

More Passenger Amenities (optional seatback AVOD IFE)

Concept seats shown



## **199 CRJ NextGen Aircraft Ordered Since Launch** (as of March 14, 2008)

#### **CRJ1000 NextGen CRJ900 NextGen CRJ700 NextGen** Scandinavian 10 Alma **Northwest** 36 **Mvair** 15 Mesa 10 GoJet Pluna Estonian 3 Delta 8 **Brit Air SkyWest** 18 Libyan 2 Iraq 6 **SkvWest Undisclosed 15 Felix** Adria Lufthansa 15 Adria **NextGen** Orders **CRJ700** 40 **CRJ900** 120 **CRJ1000** 39 BOMBARDIER Total 199 [These] document[s] contain[s] financial, commercial, scientific, technical or other proprietary information. This document is for

# CRJ1000 NextGen - A Strong Launch Customer Base with 62 Orders and Options

MyAir 15 firm orders

#### Air France by Brit Air

#### 8 firm orders + 8 options

#### Undisclosed

15 firm orders +15 conditional orders







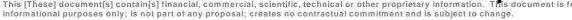
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# Adria Airways

1 firm order

#### 39 firm orders + 23 conditional orders and options This [These] document[s] contain[s] financial, commercial, scientific, technical or other proprietary information. This document is for



# CRJ1000 NextGen Entry Into Service: 4<sup>th</sup> Quarter CY2009





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# **Q400 is Leading the Resurgence in Large Turboprops**

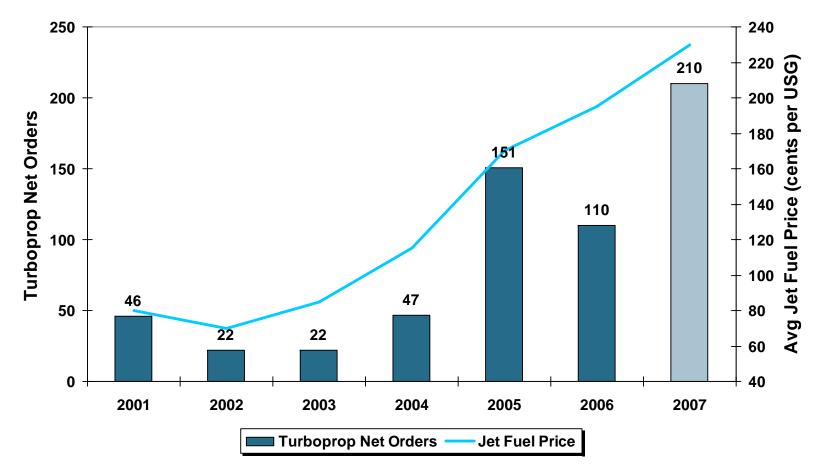
- Fastest
- Quietest
- Lowest-Cost

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# In the Turboprop Market: Price of Fuel Continues to Influence Turboprop Order Activity

**Turboprop Net Orders and Fuel Price** 

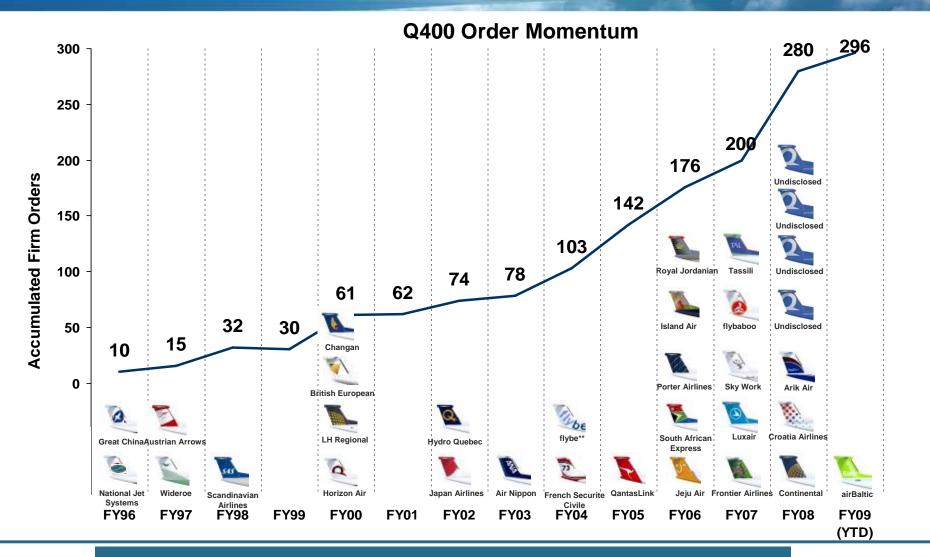


Source: Back Aviation (Airbus, ATR, Boeing, Bombardier, Embraer), ATA. 2007 Orders as of December 31, 2007 are based on Manufacturer press releases.

(http://www.airlines.org/economics/energy/Annual+Crude+Oil+and+Jet+Fuel+Prices.htm), Jet Fuel price to Sept. 2007 This [These] document[s] contain[s] financial, commercial, scientific, technical or other proprietary information. This document is for informational purposes only; is not part of any proposal; creates no contractual commitment and is subject to change.



# Q400 Continues to Build Momentum (as of March 14, 2008)



#### 80 Firm Orders and 7 New Operators in FY2007/08

# The Q400: Unlike Any Other Regional Aircraft

#### **Q400 Jet Features**

- High Speed Climb and Cruise Performance
- High Technology Product and Features
- Quiet and Comfortable Cabin

#### **Q400 Turboprop Features**

- Performance to Access More Airfields
- Fuel Efficient, Environmentally Friendly
- Best Economics of any Regional Aircraft
  - 30% lower fuel burn than 70-seat RJ







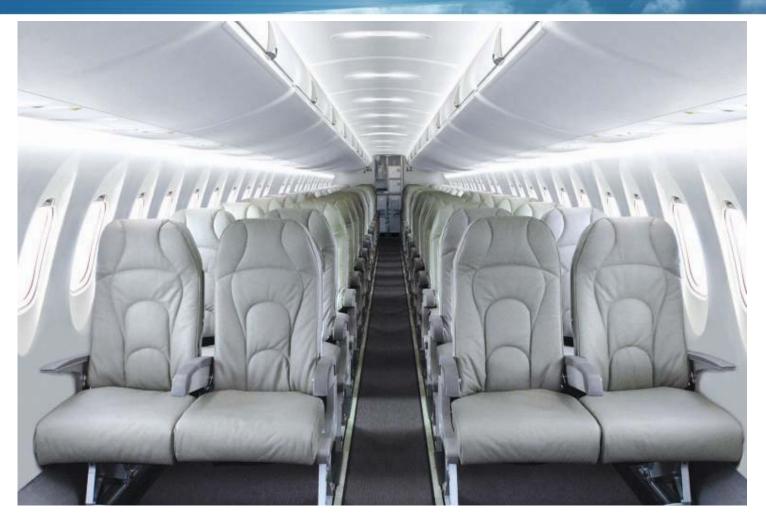




# **Q400** NextGen

- New Interior Appeal
  - Improved Maintenance Program
- **Fuel Savings**

# **Q400 NextGen Enhanced Interior**



Concept rendering



## **Q Series Future Vision** The 90-seat Q400X

# **Q400X**

- 90 passengers @ 31" pitch
- Maximum Commonality with Q400



#### - PRODUCT DEVELOPMENT STUDY -



## **Bombardier Customer Services** 3 Priorities. One Mission.



#### **Delivering an Amazing Customer Experience**



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**Conclusion** 



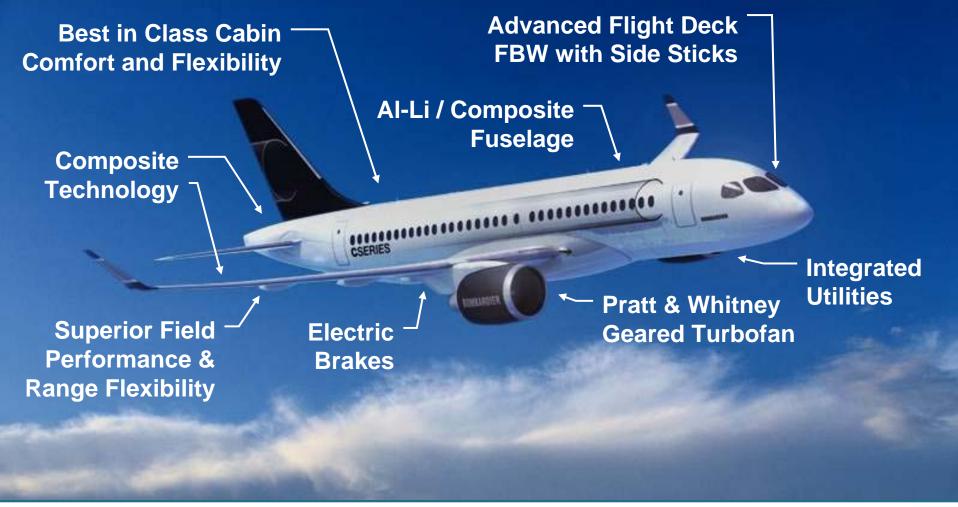
# **CSERIES • A Game Changer In Its Class**

Family of Aircraft with Full Commonality Environmentally Focused – 20 EPNdB Margin to Stage IV Total Life Cycle Cost Improvement Up to 15% Better Cash Operating Costs and 20% Fuel Burn Advantage Widebody Comfort In A Single Aisle Aircraft Mature 99% Reliability at Entry Into Service Operational Flexibility – Short Field and Longer Range Performance

- PRODUCT DEVELOPMENT STUDY -



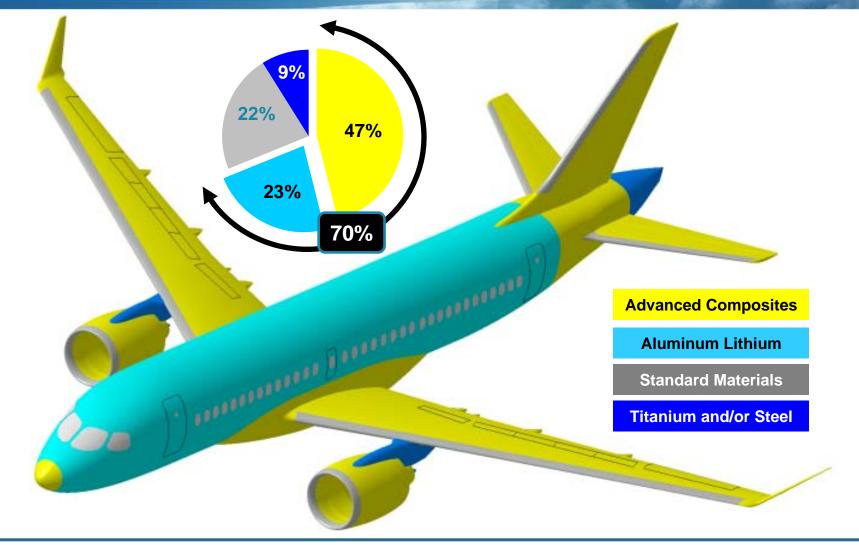
# **CSERIES** • Technologies and Design Evolutions Focused on Delivering Operational Benefits



- PRODUCT DEVELOPMENT STUDY -



## 70% Advanced Structural Materials Not In Airline Service Today



- PRODUCT DEVELOPMENT STUDY -



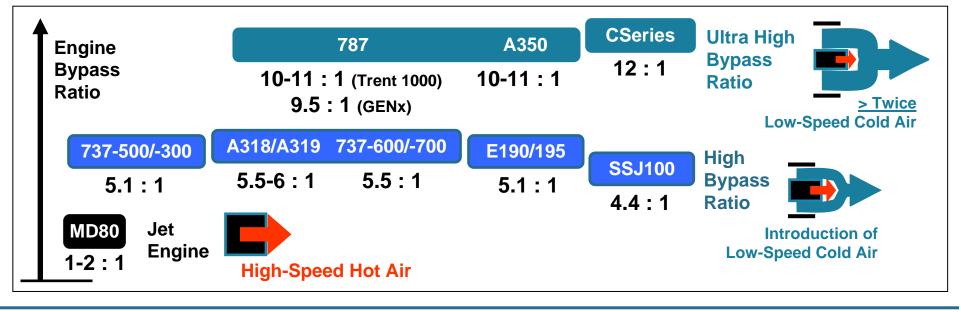
# **CSERIES** and the Pratt & Whitney Geared Turbofan ... Leading the Way In Fuel Burn Reduction

<u>Ultra High Bypass Ratio</u> Coupled with Newest & Proven Technology Yielding:

- Up to 20% Fuel Burn Advantage\*
- Lower Noise: Stage IV -20 EPNdB
- Lower Emissions



Pratt & Whitney Geared Turbofan<sup>™</sup>

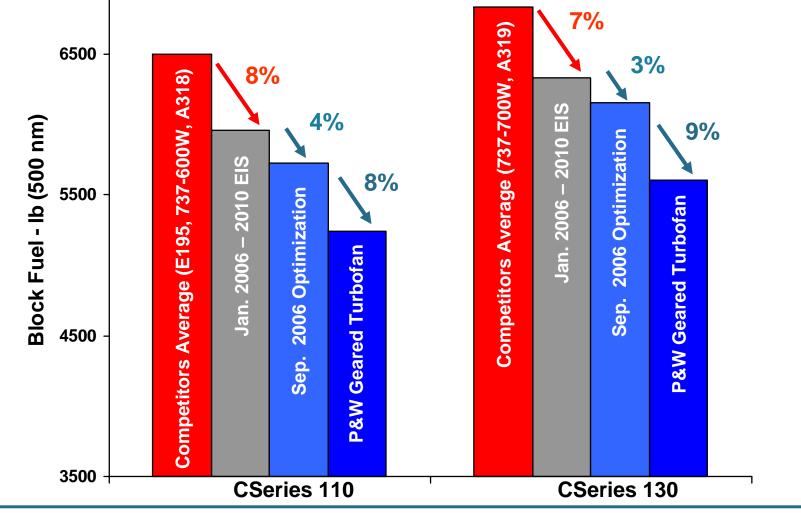


\* vs. Current In-Production Aircraft

- PRODUCT DEVELOPMENT STUDY -

#### BOMBARDIER

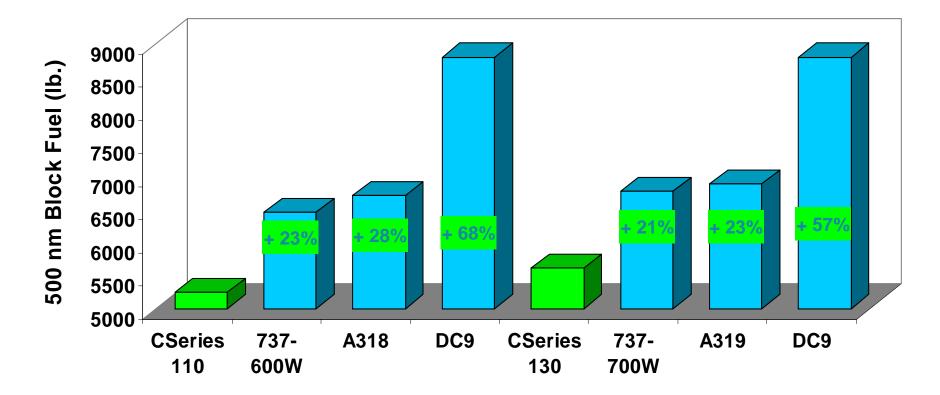
## Technology and Design Optimization Have Progressively Reduced Fuel Burn to Meet Market Requirements



- PRODUCT DEVELOPMENT STUDY -

#### BOMBARDIER

# **CSERIES** and Pratt & Whitney Geared Turbofan Solution Offers Up To 68% Fuel Burn Advantage

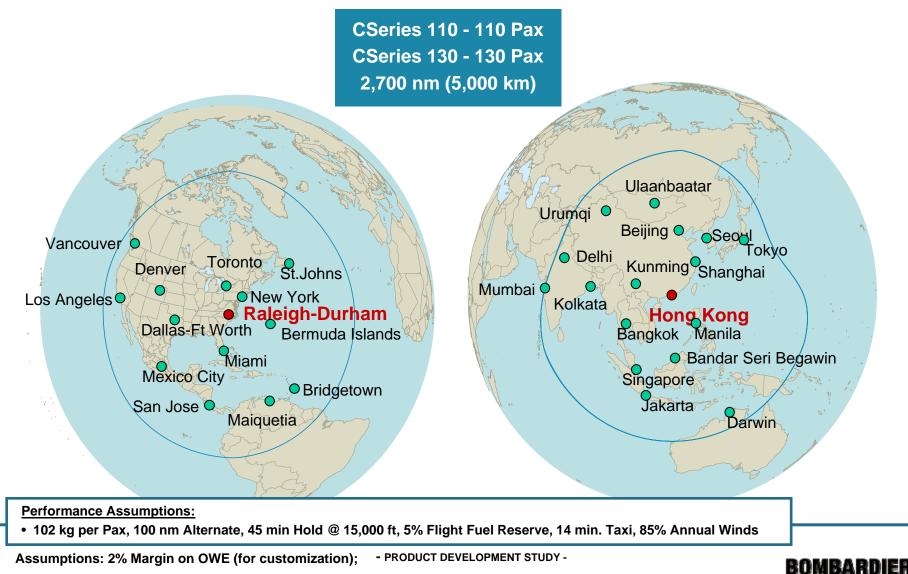


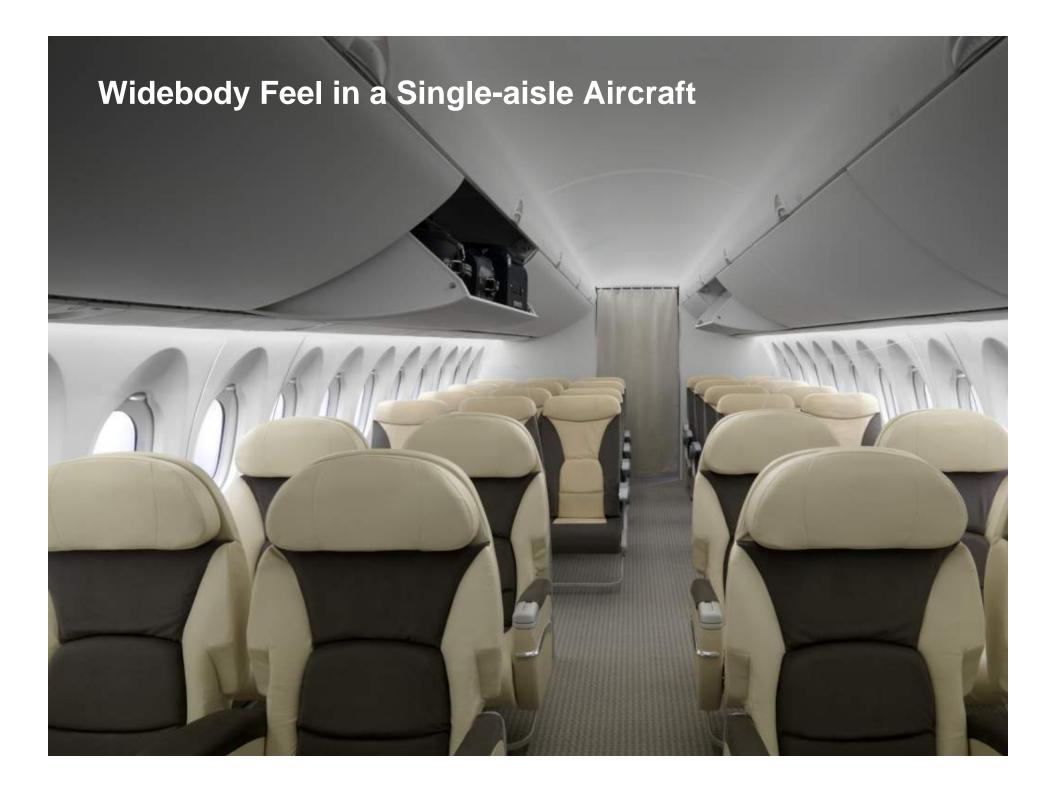
#### Better Fuel Economy over New Generation and Significant Fuel Burn Advantage over Replacement Potential Aircraft

- PRODUCT DEVELOPMENT STUDY -



## **CSERIES** Offers Airlines The Ability to Connect Secondary City Pairs Directly





### The Greenest Single-Aisle Aircraft in the Sky

The future of the industry lies in the challenge of being profitably green. Designed with vision and conviction, the environmental benefits of the C Series combine the best business practices with the best corporate citizenship.

**C** Series Emissions:

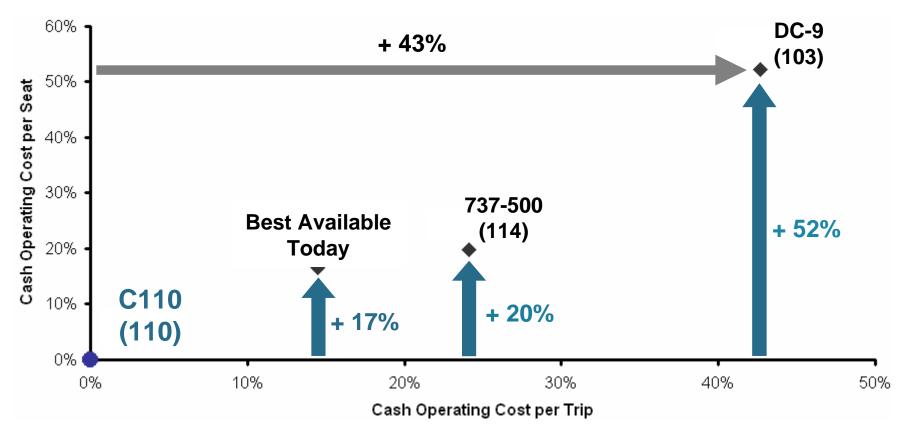
Up to 23% Lower CO2

Up to 62% Lower NOx

• Up to 5 times Quieter

# **CSERIES** Cash Operating Costs Advantage\* % Relative to C110

#### COC Comparison – 750 nm Mission North American Environment

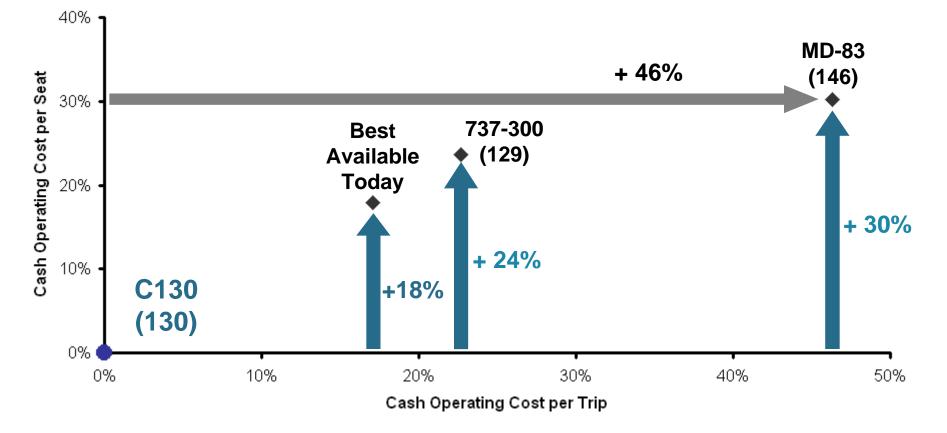


Assumptions: Fuel: \$2.30USD/USG, Landing Fees: \$2.94 per 1000 lb MLW, Flight Crew 100 Seater: \$355.39, Flight Crew 130 Seater: \$424.95, Cabin Crew: \$39.41, MTOW for 1,500nm, 1 F/A per 50 Pax, Single-Class @ 32" Pitch \* up to

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# **CSERIES** Cash Operating Costs Advantage\* % Relative to C130

COC Comparison – 750 nm Mission North American Environment



Assumptions: Fuel: \$2.30USD/USG, Landing Fees: \$2.94 per 1000 lb MLW, Flight Crew 100 Seater: \$355.39, Flight Crew 130 Seater: \$424.95, Cabin Crew: \$39.41, MTOW for 1,500nm, 1 F/A per 50 Pax, Single-Class @ 32" Pitch \* up to

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### Look Forward to the C Series

It's a game-changer in its class, giving you a cleaner, quieter, more comfortable, more reliable, more profitable network

- Optimized family of aircraft
- Beyond state-of-the-art technology and design
- Up to 15% less Cash Operating Costs
- The most environmentally friendly
  - Less CO<sub>2</sub>, less NO<sub>x</sub>, less noise
- Widebody feel in a single-aisle aircraft



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- **Airline Market Outlook**
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- Strong order performance and backlog growth at both Bombardier Business Aircraft and Regional Aircraft:
  - Continued strong Business Aircraft market
  - Strong rebound at Regional Aircraft
  - Market Leadership in each segment
- Customer base expanding rapidly for our products
- Product innovation with CRJ NextGen and Q400 NextGen
- C Series is a game changer in the 100-149 seat segment:
  - Authority To Offer granted



### **Bombardier Aerospace** Continuous Innovation in Commercial Aircraft

# Thank You! Questions?





Crime Cri

