

# BOMBARDIER

## BACKGROUNDER

### The “Comfortably Greener” Q400 NextGen Aircraft

Launched in 2008, Bombardier’s fast, large *Q400 NextGen* turboprop airliner is the most recent development in the evolution of the *Q400* aircraft, and the advanced successor to the *Dash 8/Q-Series* family of aircraft. The *Q400 NextGen* aircraft’s quiet performance, fuel efficiency and lower emissions position it as a “comfortably greener” solution for airlines worldwide, and its operating costs are among the lowest of any regional aircraft.

Revised in the same spirit as Bombardier’s *CRJ NextGen* aircraft family, the *Q400 NextGen* aircraft features an enhanced cabin environment with the introduction of LED lighting, new ceiling panels, dished window sidewalls and larger overhead luggage bins. These features, combined with the Active Noise and Vibration Suppression (ANVS) system, provide an excellent cabin experience for passengers.

The *Q400 NextGen* aircraft’s external noise, as with Bombardier’s other regional aircraft products, is well below the maximum permitted by International Civil Aviation Organization (ICAO) Annex 16 Ch. 4, and U.S. Federal Aviation Regulations (FAR) 36 Stage 4. The *Q400 NextGen* aircraft also produces very low carbon dioxide and other emissions.

Bombardier had booked firm orders for 378 *Q400* and *Q400 NextGen* aircraft and had delivered 300 of the aircraft as of April 30, 2010. *Q400* and *Q400 NextGen* airliners are now in service with some 30 airlines and other operators, and the worldwide fleet has logged more than 2.2 million hours and 2.4 million take-off and landing cycles. In addition to their role as regional airliners, *Q400* aircraft are also being used in corporate transport and firefighting, and are suitable for an array of missionized operations.

**Background:** Building on the overwhelming market approval of the pioneering Noise and Vibration Suppression (NVS) system, which was introduced in 1996, Bombardier renamed its *Dash 8* aircraft family the *Q-Series* with the 37- to 39-seat *Q200*, 50- to 56-seat *Q300* and 68- to 80-seat *Q400* airliners.

Q means Quiet. NVS, developed jointly by Bombardier and Ultra Electronics of the U.K., delivers the quietest and most vibration-free passenger cabin of any propeller-driven aircraft.

Officially launched in 1980 when regional airlines were beginning to modernize, the de Havilland *Dash 8* aircraft combined advanced technology, superior design features and fuel-efficient and more reliable turbine engines to provide the ruggedness and performance required in the high-frequency, short-haul regional airline environment. The original *Dash 8* aircraft has grown into a true family of 37- to 80-seat aircraft with comfortable two-plus-two seating that offers regional airlines a model that will profitably fit any mission.

Such is the flexibility of the *Dash 8* aircraft that it has been adapted for a wide variety of non-airline roles such as cargo, medical evacuation, corporate transport, airways and navigation aid calibration, navigator training and maritime patrol, to name but a few.

**Q400 turboprop:** Bombardier Aerospace launched the *Q400* airliner in June 1995. While it was designed to meet the requirements for high-density, short-haul services, the 360-knot (667 km/h) speed and 1,125 nm (2,084 km) range of the *Q400* airliner offer additional productivity, and thus revenue-generating capability, by extending an airline's reach to new markets beyond current turboprop distances and increasing the frequency and capacity of the service on existing routes.

Powered by new-generation, 5,071-shp PW150A engines, the *Q400* airliner has a fuselage stretch of 23 feet five inches (7.14 m) over the *Q300* aircraft for an overall length of 107 feet nine inches (32.8 m). The wingspan is 93 feet three inches (28.4 m) and the maximum take-off weight is 65,200 pounds (29 574 kg).

The *Q400* airliner flew for the first time on January 31, 1998 and received Transport Canada certification in June 1999, European JAA approval in December 1999 and U.S. Federal Aviation Administration certification in January 2000. The *Q400* airliner entered airline service with SAS Commuter of Scandinavia on February 7, 2000, and the first *Q400 NextGen* airliner was delivered to Widerøe's Flyveselskap in May 2009.

## MILESTONES

### **Q400 NextGen aircraft**

Program Launch: March 10, 2008  
First Delivery: Widerøe's Flyveselskap – May 13, 2009

### **Q400 aircraft**

Program Launch: June 1995  
First Flight: January 31, 1998  
Certification: Transport Canada – June 1999  
European JAA – December 1999  
FAA – January 2000  
Entry into Service: SAS Commuter of Scandinavia - February 7, 2000

### **Q300 aircraft**

Program Launch: March 1986  
Rollout: March 22, 1987  
First Flight: May 15, 1987  
Certification: February 1989  
First Delivery: Time Air, February 1989

### **Q200 aircraft**

Program Launch: March 1992  
First Delivery: BPX Colombia - April 19, 1995

### **Q100 aircraft**

Program Launch: 1980  
Rollout: April 1983  
First Flight: June 20, 1983  
Certification: September 1984  
Entry into Service: norOntair - December 1984

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