

BOMBARDIER

BACKGROUNDER

BOMBARDIER GLOBAL EXPRESS XRS

Background: In service since November 2005, the *Global Express XRS* ultra long-range intercontinental business jet takes the superior performance of the revolutionary *Global Express* jet even further by offering greater levels of cabin comfort, performance and technology for up to eight passengers and four crew.

Certified to stringent regulations by both North American (U.S. Federal Aviation Administration and Transport Canada) and European (European Aviation Safety Agency and Joint Aviation Authorities) airworthiness authorities, the 6,150-nautical-mile (11,390-km) *Global Express XRS* jet flies faster, farther, than any other aircraft in its class and accesses the most challenging airfields. Its long-range, high-altitude capability, large cabin and design features (wing slats and flaps) also make it ideal for specialized missions.

With the *Global Express* jet, Bombardier entered into pioneering risk-sharing agreements with major international aerospace leaders worldwide, including: Rolls-Royce Deutschland GmbH, Germany; Mitsubishi Heavy Industries Ltd., Japan; Messier Dowty International, Canada; Thales Avionique and Liebherr-Aerospace-Toulouse SA, France; and United Technologies Corporation, Parker Aerospace and Honeywell Inc., of the United States.

Description: The *Global Express XRS* jet features the largest cabin of any purpose-built corporate aircraft with 28 per cent more cabin volume (2,140 cubic feet; 60.6 cu. m), and 45 per cent more floor area (335 square feet; 31.12 sq. m) than its closest competitor. The cabin's 48-feet, 4-inch (14.73-m) length and 8 feet, 2-inch (2.49-m) width allow for a comfortable three-compartment configuration. For example, the baseline configuration includes an enclosed large aft stateroom with adjacent lavatory for rest and privacy. It also includes a forward club grouping, a mid-cabin conference grouping, and a dedicated forward section comprised of a lavatory, a large galley area and a crew area. The cabin also provides 6 feet, 3 inches (1.91m) of stand-up height for greater ease of movement.

Performance and cabin enhancements:

Superior range at high speed: With the addition of a forward fuel tank in the wing/body fairing, more than 220 U.S. Gallons (833 liters) of useable fuel volume were added over the *Global Express* jet, for a total of 44,975 lb (20,400 kg), allowing the newer *Global Express XRS* jet to fly longer distances at higher speeds than any other business aircraft in its class – 6,150 nautical miles (11,390 km) at Mach 0.85, and 5,450 nautical miles (10,093 km) at Mach 0.87.

Improved takeoff capabilities: A new zero-flaps-takeoff-capability permits *Global Express XRS* jet operators to depart from “hot and high” airports at higher temperatures and with a greater fuel load, reaching more cities from more airports. For example, the aircraft now allows customers to depart Toluca, Mexico, in temperatures of ISA+25C (25 Celsius) and reach Madrid, Spain, non-stop. From Johannesburg, South Africa, the aircraft now allows customers to reach any city in Europe when departing in temperatures of ISA +25C (29 Celsius).

Faster refueling technology: The *Global Express XRS* jet features a new, fast refueling technology that shortens refueling to less than 30 minutes from 45 minutes.

***Global Vision* flight deck:**

A breakthrough in business aviation, the *Global Vision* flight deck is designed to deliver a completely new cockpit experience. By combining the best in technological advancements with superior designer aesthetics, it provides pilots flying *Bombardier Global* aircraft an unprecedented level of control and comfort.

The *Global Vision* flight deck introduces the Rockwell Collins Pro Line Fusion avionics suite, providing an integrated flight deck to ensure interoperability between systems. Debuting on the *Bombardier Global* aircraft family, Pro Line Fusion features four high resolution 15-inch diagonal active matrix liquid crystal displays (LCD) arranged in a T-shape working in concert with Head-Up Guidance Systems (HGS[®]), personalized formats of display information, electronic checklist, maps with graphical flight planning, integrated cursor control panel, Synthetic-Enhanced Vision System, paperless operation enabled by Dual Electronics Charts, Future Air Navigation System (FANS), Controller-Pilot Datalink Communication (CPDLC) and MultiScan™ Weather Detection system.

With the *Global Vision* flight deck, advanced technology meets with exceptional aesthetics to create a new cockpit experience. The upgrade design features including the application of high quality materials and better overall use of space result in a wider looking flight deck.

A great level of attention is dedicated to details, such as the twin needle stitching with contrast thread featured on the yoke, which provides the feel of a luxury vehicle steering wheel.

Map lighting as well as the sun visor are more aesthetically pleasing and positioned where they are most effective. Storage is increased and designed to integrate smoothly into the cockpit environment.

The Bombardier Enhanced Vision System (BEVS) provides pilots with significantly improved situational awareness and the ability to observe runway lights and the runway environment in difficult operating conditions, such as low visibility and or darkness. BEVS also enhances safety by helping to identify runway incursions. The heart of the BEVS is the CMC Electronics CMA-2700, a new, third-generation member of its SureSight® family of I-Series™ integrated sensor systems for Enhanced Flight Vision System (EFVS) applications, integrated with Rockwell Collins Heads-Up Guidance System (HGS®). Together, the system enables descent down to 100 feet above ground level, thereby enhancing operational flexibility.

Improved cabin pressurization: Passengers and crew will enjoy superior comfort thanks to improved cabin pressurization allowing for a 4,500-foot (1,372-m) cabin altitude at flight level 450 (FL450) and a 5,700-foot (1,737 m) cabin altitude at FL510. This is the lowest of any commercial aircraft. An optional humidification system is also available.

Superior cabin ambiance: Two new cabin windows, one fore and the other aft, along with larger window reveals, provide an increase of 183 per cent in unrestricted viewing area and ambient lighting along the cross-section. The cabin also features the latest Light Emitting Diode (LED) colored lighting technology, which is more reliable and versatile than traditional lighting.

Superior connectivity: Ethernet-based airborne Local Area Network, complemented by an in-cabin telephone system capable of interfacing with a multi-channel satellite communications system comprised of the Inmarsat Aero H+ and Swift 64 communication services, as well as with Iridium communication services; a multi-function printer/fax and a host of entertainment options.

Improved cabin systems: Forward and aft vacuum toilets and maintenance diagnostics for all cabin systems through the Cabin Electronic System.

Status: On May 11, 2009, Bombardier announced that the new *Global Vision* cockpit successfully completed its Power-ON test in winter 2009 and is on target for its first flight on a *Global Express XRS* aircraft in summer 2009.

Highlights:

Max. speed:	Mach 0.89 (590 mph; 950 km/hr)
Max. IFR range:	6,150 nm (11,390 km) at Mach 0.85 with 8 pax. ISA, IFR reserves
Max. altitude:	51,000 feet (15,545 m)
Passengers:	8-19
Crew:	2-4

Milestones*:

Program launch:	Oct. 6, 2003
First flight:	Jan. 16, 2005
Certification:	July 31, 1998 Transport Canada
First delivery:	Nov. 25, 2005
Aircraft manufactured:	262 (as of April 30, 2009 – includes both Global Express and Global Express XRS aircraft)

* Aircraft manufactured numbers include all *Global Express XRS* aircraft manufactured by Bombardier Aerospace that have received their Certificate of Airworthiness.

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May 2009

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