

Next-Generation Regional Jet: Mitsubishi Regional Jet (MRJ)



MITSUBISHI AIRCRAFT CORPORATION
SALES DEPARTMENT
 ☎ 81-52-611-3165

The Mitsubishi Regional Jet (MRJ) is the first domestic next-generation regional jet based on the world-class cutting-edge technology that Mitsubishi Heavy Industries, Ltd. (MHI) has developed over many years of experience in producing military and commercial aircraft. The MRJ offers unprecedented value with its focus on the environment, passengers, and airlines. Mitsubishi Aircraft Corporation commenced operation in April 2008 as a new company created specifically for the MRJ program. Mitsubishi Aircraft Corporation is accelerating the development of the MRJ and further expanding sales to airlines of the world, positioning the MRJ as the new standard for next-generation regional jets.

1. Development background

MHI started engineering development of the MRJ in 2003, and this resulted in the configuration and conceptual design for a 70–90 seat aircraft designed to achieve eco-friendly low fuel consumption, low noise, and low operating costs. Discussions with domestic and foreign airlines during the preliminary studies indicated excellent market potential for the MRJ. MHI unveiled the Authorization to Offer on October 9, 2007 and officially commenced sales activities. The world's airlines have found the MRJ's superb environmental performance quite attractive. Upon receipt of an order from All Nippon Airways, MHI announced its program launch in March 2008 and formed Mitsubishi Aircraft Corporation to implement the design, development, sales, and customer support. The MRJ's first flight is scheduled for 2011 and the first delivery for 2013.

2. Features

There are two versions of the MRJ, designed to meet a wide range of airline needs: the MRJ70 with 70 seats and the MRJ90 with 90 seats. As a regional jet, the MRJ is not designed for long-haul intercontinental flights. It is, however, well-suited for regional networks with a range of 2,000–3,000 km. The MRJ has sufficient range to cover all of Europe, operating from Paris; all of North America, operating from Chicago; and Shanghai, Hong Kong and all of Japan, operating from Haneda. The MRJ has three main features: environmental design for low fuel consumption and low noise, passenger comfort in a relaxing cabin, and airlines benefits of high reliability and low operating costs.

(1) Environmental features

Eco-friendly aircraft are extremely important given the increased public environmental consciousness. It is anticipated that emissions regulations will become increasingly strict, especially in Europe where environmental awareness is very high. Accordingly, the MRJ's levels of carbon dioxide and nitrogen oxide emissions are significantly lower than those of competitors' aircraft. Recognizing that aircraft noise has negative effects on society, the MRJ noise level is 10 decibels less than that of its competitors, a great advantage for take-offs and landings in airports.

(2) Passenger comfort—safe and outstandingly comfortable ride

A new slim and robust seat using a three-dimensional net fabric has been used to provide

enhanced passenger comfort. The prototype seat was exhibited at the Farnborough Air Show last July and was well received by the world's airlines. In addition, the MRJ has ample head and foot clearance, and large overhead luggage bins to provide a comfortable and practical cabin area for passengers.

(3) Airlines benefits—economical aircraft

Every airline wants economical aircraft with efficient engines and low air resistance. With the world's most advanced aerodynamic design and next-generation Pure Power™ PW1000G engines with low fuel consumption, the MRJ is a landmark aircraft in regional-class aircrafts, with 20% lower fuel consumption than its competitors.

Composite materials were used for the main wings and empennage to reduce airframe weight and to lower the maintenance costs. The wing boxes of the Boeing 787 are made of composite materials, and MHI Nagoya Aerospace Systems is in charge of their production. However the MRJ is the first regional-class aircraft with composite wings. Since landing fees vary according to noise levels, the low-noise MRJ is very economical. For 2500 take-off and landing cycles yearly, the annual savings will be on the order of tens of millions of yen.

3. Development schedule

The conceptual design is now complete. Mitsubishi Aircraft Corporation is working with its partners on the detailed design, and many engineers from domestic and overseas companies are stationed at Nagoya. The detail design will be complete by fall 2009, at which time it will be frozen. The application for a type certificate (TC) was made to the Japan Civil Aviation Bureau (JCAB) of the Ministry of Land, Infrastructure, Transport, and Tourism in October 2007, and discussions with the JCAB are currently underway. Mitsubishi Aircraft Corporation will also apply to the U.S. Federal Aviation Administration and the European Aviation Safety Agency, and is planning to deliver the first aircraft in 2013 after obtaining the TC.

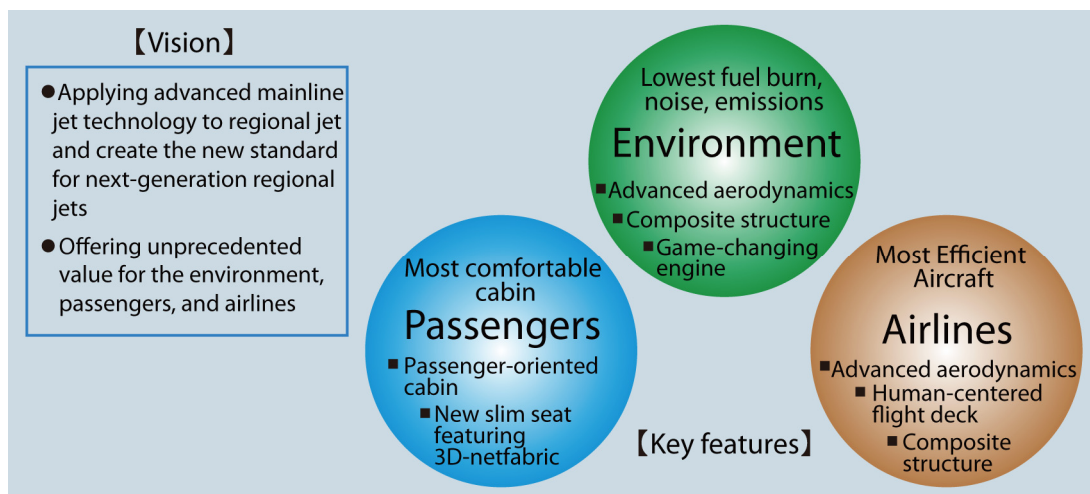


Figure 1 Vision and key features

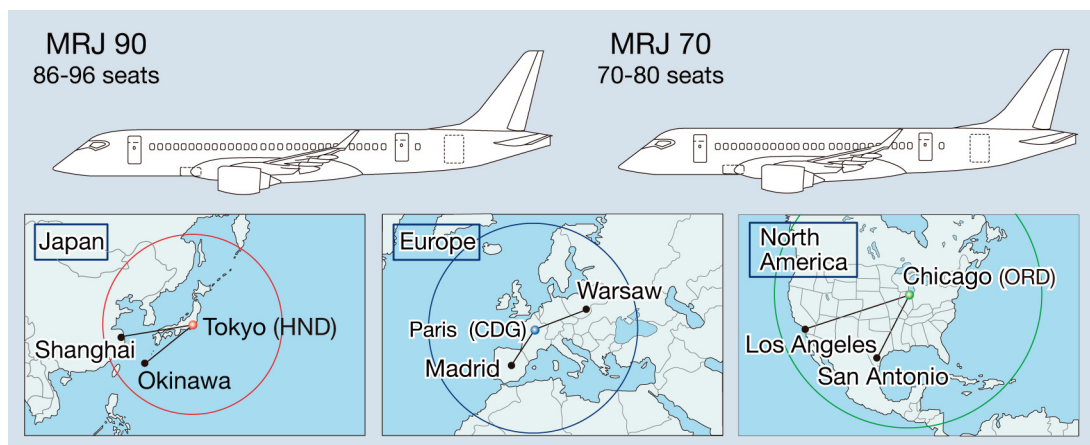


Figure 2 MRJ Family and Range Capability