



# Japan's first commercial aircraft engine set to power the MRJ

The new model PW1200G engine mounted on Japan's dream jetliner — the MRJ, offers outstanding fuel efficiency and noise reduction and is the first aero engine for commercial aircraft produced in Japan. Mitsubishi Heavy Industries Aero Engines, Ltd\*1, responsible for engine final assembly and testing, along with combustor manufacturing, is now preparing for production. We interviewed Hiroshi Kameda, the program manager.

## What is the PW1200G?



It's a truly revolutionary engine developed by Pratt & Whitney (P&W). The engine has gears between the fan and the compressor, enabling the engine to operate at the optimum speed and resulting in superior fuel efficiency and noise reduction. The combustor, manufactured by Mitsubishi Heavy Industries Aero Engines, delivers superb environmental performance.

## A world-surprising engine

### Q What work are you in charge of now?

A I'm leading coordination among P&W, Mitsubishi Aircraft Corporation, partner companies, and our internal departments. I'm responsible for project management to include scheduling and costing, and if we have a problem or request, I consult with P&W or visit partner companies. For many years the Japanese commercial aircraft industry has been limited to component manufacturing, and MHI too,



## Pick Up Innovator >>>

### Profile Hiroshi Kameda

#### Program Manager

Program Management Group  
Engineering Department  
Mitsubishi Heavy Industries  
Aero Engines, Ltd.

After joining MHI in 1996, Kameda has worked on the PW4000 aero engine project and an aircraft engine aero-derivative gas turbine package. Since 2009, he has been the Program Manager of the PW1200G engine for the MRJ.



for more than 20 years, has manufactured parts for the PW4000 engine. We gradually gained customer trust and beginning with the PW1200G, we are responsible for final engine assembly and testing; a first for the Japanese commercial aircraft aero engine industry. At the beginning of my job, to receive manufacturing certification from applicable aviation authorities, adjust the program with P&W, or fine-tune systems for production, sometimes I couldn't see my way or felt overburdened by the heavy responsibilities of such a huge project. But one day I'll really sign off on the fully completed engine, and know I've taken the right path and feel very satisfied that I helped make Japanese aircraft industry history.

### Q As an engineer, what do you think is impressive about the PW1200G?

A Since childhood, I loved the massive power of aircraft engines, so I studied thermal engineering and joined MHI. The PW1200G is a new model engine with a gear system between the fan and compressor. Technically it is difficult to use gears in aircraft engines, and to be honest, I didn't expect that it would be possible. I'm in awe of and amazed at P&W's commitment to make it happen and get it just right by investing some 20 years, not to mention the huge development costs.

## Impressive energy at work

### Q What events have impressed you most in the PW1200G project?

A In 2012, I was really moved when for the first time I saw the actual PW1200G at a P&W factory. A simulated flight test of the PW1200G fitted on a Boeing 747\*2 was conducted, and it was rare for a company to allow an outside engineer to witness such tests. I had already felt that P&W was like a close associate, learning from each other, and we were both working hard to accomplish a long-term objective, but it was then I realized how much P&W really appreciated our company as a partner. Also, from the pilot who flight-tested a PW1500G, a sister engine of the PW1200G designed for other aircraft models, I heard: "Fuel efficiency is very good. The engine was so quiet that I didn't even know it was turning when I was sitting in an adjacent aircraft." My heart was filled with pride that I could take part in the manufacture of such a beautiful engine.

### Q What is the key mindset required for the project leader?

A There is no project on earth without problems. Firstly, it is important to be tenacious and confident that you'll eventually overcome any problem. You must also pull together all the abilities of the team to find a solution and make a better product. Particularly, cost management and strict observance of delivery dates determine the game. I regularly hold meetings and take the initiative in keeping my commitment and building relationships of trust.

## "That's our engine!"

### Q What benefits will the PW1200G contribute to society?

A Companies and logistics services involved in the component manufacture and assembly will be growing once production starts. It's also a very economical engine with low fuel consumption and fewer parts and has less environmental impact with reduced noise and emissions. Our factory will then become a major aircraft engine production base, and we can offer a dream to our children of making aircraft engines in Japan when they grow up.

### Q Could you tell us how you'll feel when the PW1200G makes its maiden flight?

A During the first test flight of the MRJ, I'm sure I'll only relax after the aircraft has safely touched down on the runway. I'll recall the many years I've spent on this project with joy and a sense of relief, and I'll probably cry (laugh). Of course, when the MRJ is placed in regular service, I want to keep an eye on the engine, but as a passenger, I'd think "That's our engine!" There's nothing I'd ever trade for that wonderful feeling.



\* 1 Mitsubishi Heavy Industries Aero Engines, Ltd.  
An MHI Group company responsible for commercial aircraft engines. As a P&W manufacturing base of the PW1200G, the company was certified by applicable aviation authorities, and delivers the final product to Mitsubishi Aircraft Corporation, the developer and manufacturer of the MRJ.

\* 2 Boeing 747  
A wide-body commercial airliner manufactured by the Boeing Company (U.S.) and popularly known as the jumbo jet. A best-selling aircraft in continuous production for more than 40 years.