

# Aerospace Business Operation

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## **1. Current Position of the Aerospace Business**

## **2. Key Strategies for the Major Aerospace Business Areas**

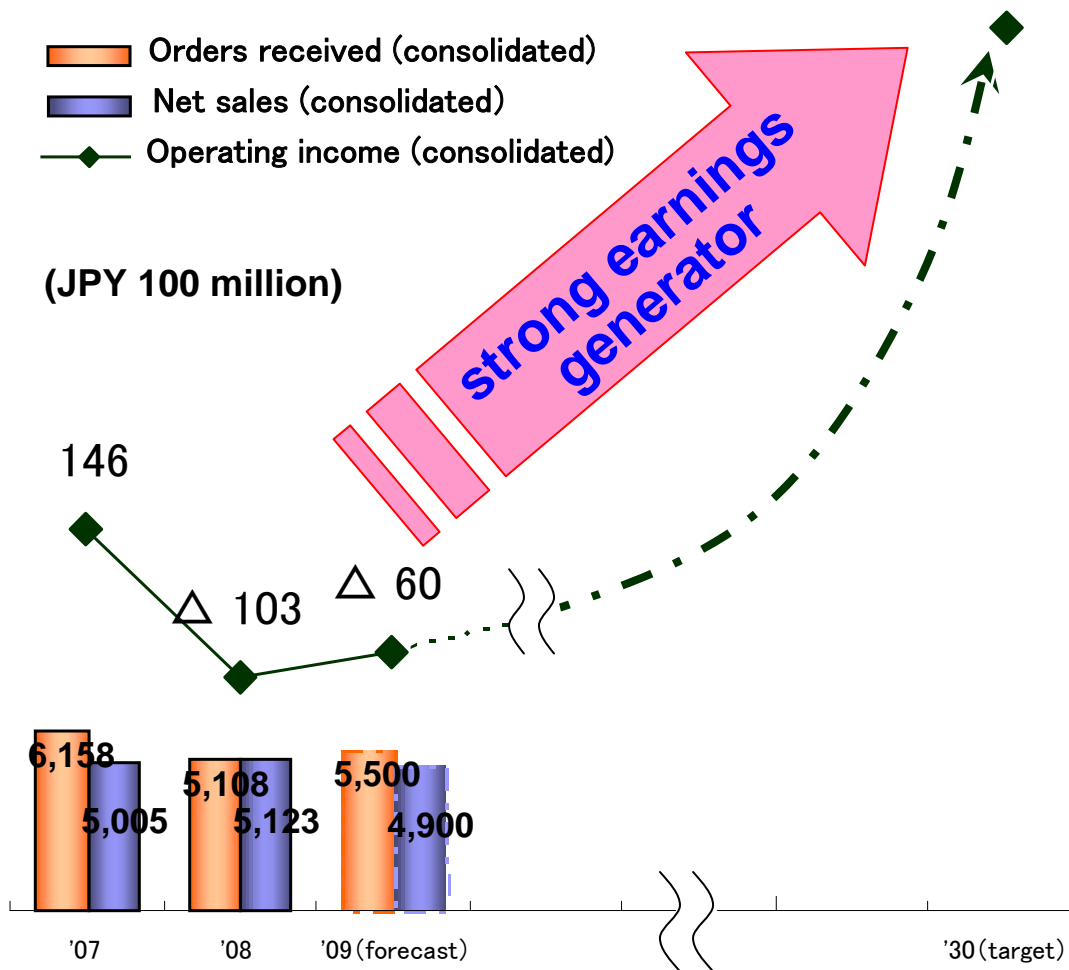
## **3. Key Initiatives of the Major Aerospace Business Areas**

- **Defense**
- **Commercial**
- **Space**

## **4. Summary**

# 1.Current Position of the Aerospace Business (1)

Aerospace, today a growth area, is poised to become a strong earnings generator.



## ■ FY2008 Overview (vs. FY2007)

- Sales up ¥11.7 billion
- Income down ¥24.9 billion

### \* Factors:

- The appreciation of the yen
- Accounting standards for measurement of inventories

## ■ FY2009 Outlook (vs. FY2008)

- Income up ¥4.3 billion

### \* Factors:

- Bolstering earning capabilities
- Improvement in productivity (lean activities, etc.)
- Production system innovations (standardization, etc.)

## Current Position of Major Business Areas

### Defense

60% share

- Mainstay business of Aerospace Division
- Market outlook: Steady performance or gradual downtrend

### Commercial

30% share

- Slump in orders amid global economic doldrums
- Market outlook: Long-range expansion

### Space

10% share

- Key business based on strength in advanced technology
- Response to Basic Space Law, Strategic Headquarters for Space Policy

## 2. Key Strategies for the Major Aerospace Business Areas

# Aerospace Headquarters

## Defense

- BMD
- Future Combat Aircraft

BMD: Ballistic Missile Defense

## Commercial

- Composite Wing Box
- MRJ

## Space

- H-II A
- HTV/H-II B

### 3. Key Initiatives of the Major Aerospace Business Areas - Defense

## Defense

### ■ BMD

- Sustained BMD business involving PAC-3 and Config.3, etc.
- U.S.-Japan Co-Development of Next Generation Program.

BMD: Ballistic Missile Defense

### ■ Future Combat Aircraft

- Promote future combat aircraft business.

### 3. Key Initiatives of the Major Aerospace Business Areas – Defense: BMD

Defense

## ■ BMD (PAC-3)



**Operations support**

BMD: Ballistic Missile Defense

### 3. Key Initiatives of the Major Aerospace Business Areas – Defense: Future Combat Aircraft

#### Defense

#### ■ The F-4 Fighter

Model selected in 1966

*In service for over 40 years*



**The successor  
to the F-4 Fighter**



**Expectation for early model selection**



#### Commercial

## ■ The Boeing 787

- Focus on critical subsystem: composite wing box production

## ■ MRJ

- Promote with the establishment of a new company
  - ⇒ Establish a position as a manufacturer capable to complete commercial aircraft

### 3. Key Initiatives of the Major Aerospace Business Areas – Commercial Aircraft: 787

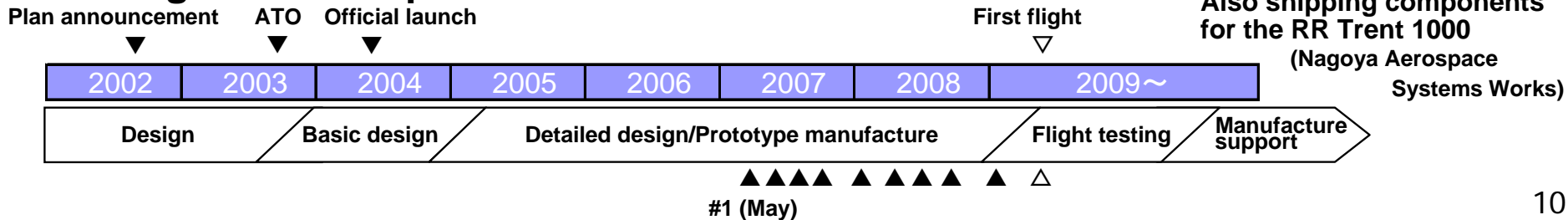
Commercial

## ■ Producing composite wing box for the Boeing 787

- Since May 2007, shipments have been completed for 9 aircraft.



### ◆ Boeing 787 development schedule



### 3. Key Initiatives of the Major Aerospace Business Areas – Commercial Aircraft: MRJ (1)

Commercial



## ■ MRJ (Mitsubishi Regional Jet): First flight in 2011; entry into service in 2013

- Airlines are showing strong interest

Airline Advisory Group meeting

(March 26-27, 2009)



- Low noise
- Low CO<sub>2</sub> emissions

Environmentally  
Friendly

Operational  
Economy

Cabin  
Comfort

- Low fuel consumption

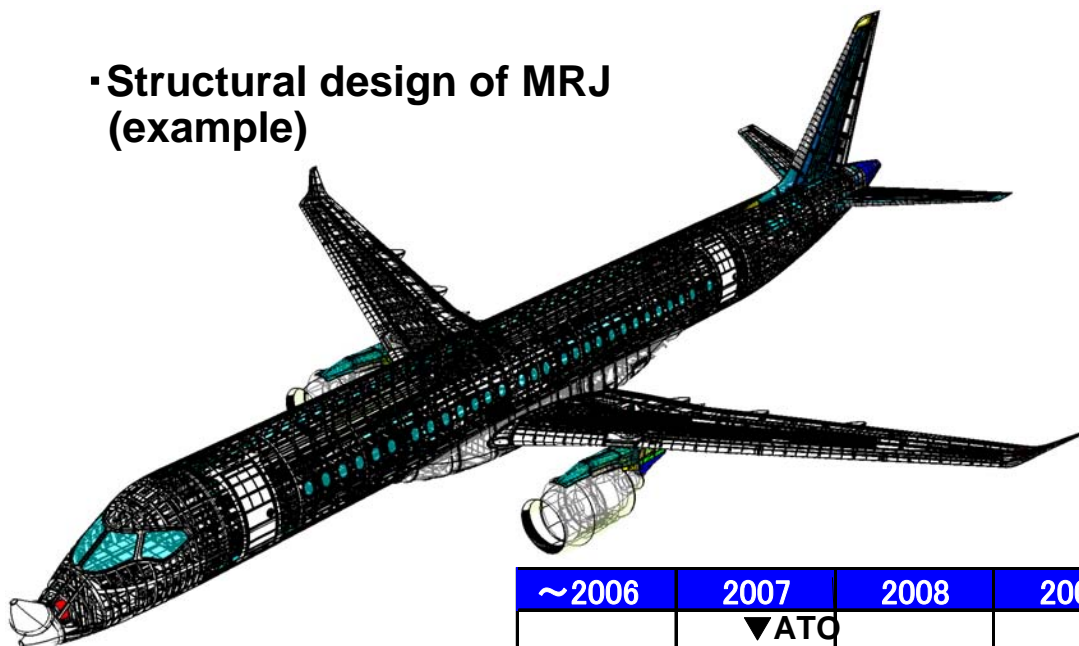
# 3. Key Initiatives of the Major Aerospace Business Areas – Commercial Aircraft: MRJ (2)

Commercial

## MRJ (Mitsubishi Regional Jet):

Detailed design & preliminary testing are now under way

- Structural design of MRJ (example)



- Preliminary testing of emergency disembarkation



### MRJ development schedule

~2006	2007	2008	2009	2010	2011	2012	2013
	▼ATO						
		▼Official launch (March 28)				▽First Flight	
		▼Full-scale operation by establishing operation company (April 1)				Aircraft delivery	▽
Conceptual design	Joint conceptual design	Joint detail design					
			Manufacturing design				
					Aircraft manufacture		

### 3. Key Initiatives of the Major Aerospace Business Areas – Space

#### Space

## ■ H-IIA Launch Services

- Securing several launches through commercial satellite orders
  - ⇒ Establish a stable operating base
  - Maintain high launch success rates

## ■ HTV / H-II B

- Materials transport for the International Space Station
  - ⇒ Expand scope of operations with the completion of development

## ■ Propose new projects associated with the enactment of the Basic Space Law

### 3. Key Initiatives of the Major Aerospace Business Areas – Space: H-IIA Launch Services

Space

## Launch services started in 2007

### Successful launch of H-IIA #15



- #13 “KAGUYA”:  
(September 14, 2007)
- #14 “KIZUNA”:  
(February 23, 2008)
- #15 “IBUKI”  
(January 23, 2009)

**Consecutive  
Successes**

▪ **World-class launch success rate: 93.3%**  
(H-IIA Only)

▪ **First overseas order**

Multipurpose satellite of Korea Aerospace  
Research Institute (KARI)

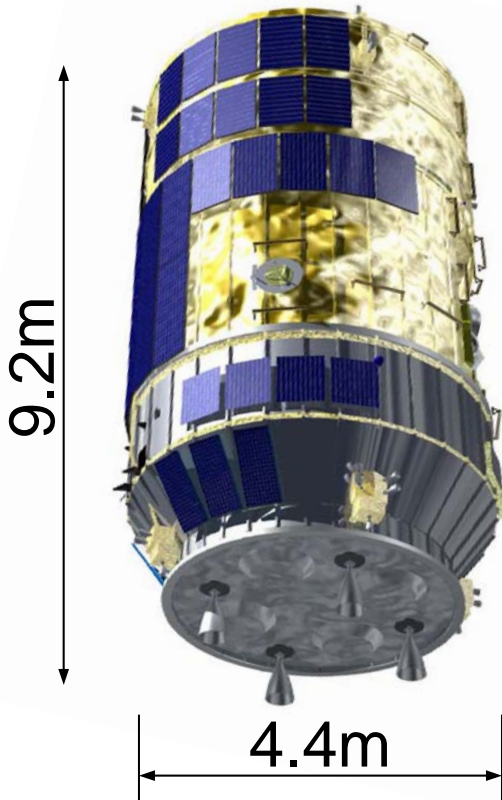
**Expansion of market for  
launch service business**

### 3. Key Initiatives of the Major Aerospace Business Areas – Space: HTV/H-IIB

Space

**HTV**

Launch slated for Sept 2009



**H-IIB**

Uses two LE-7A engines

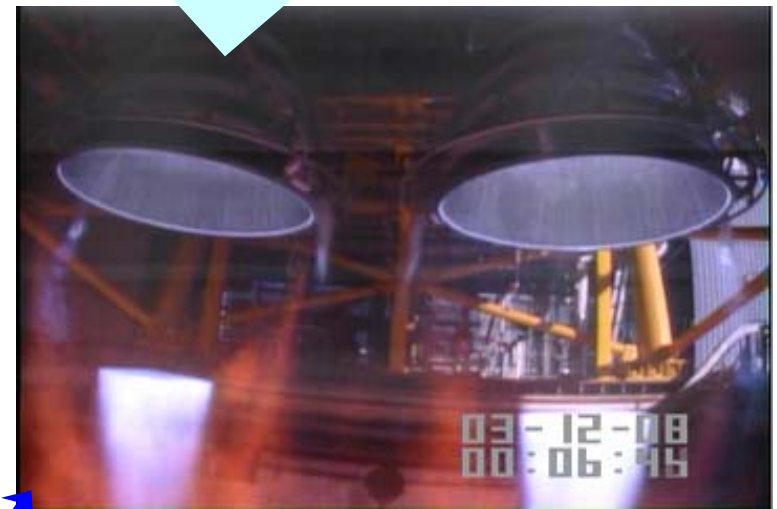


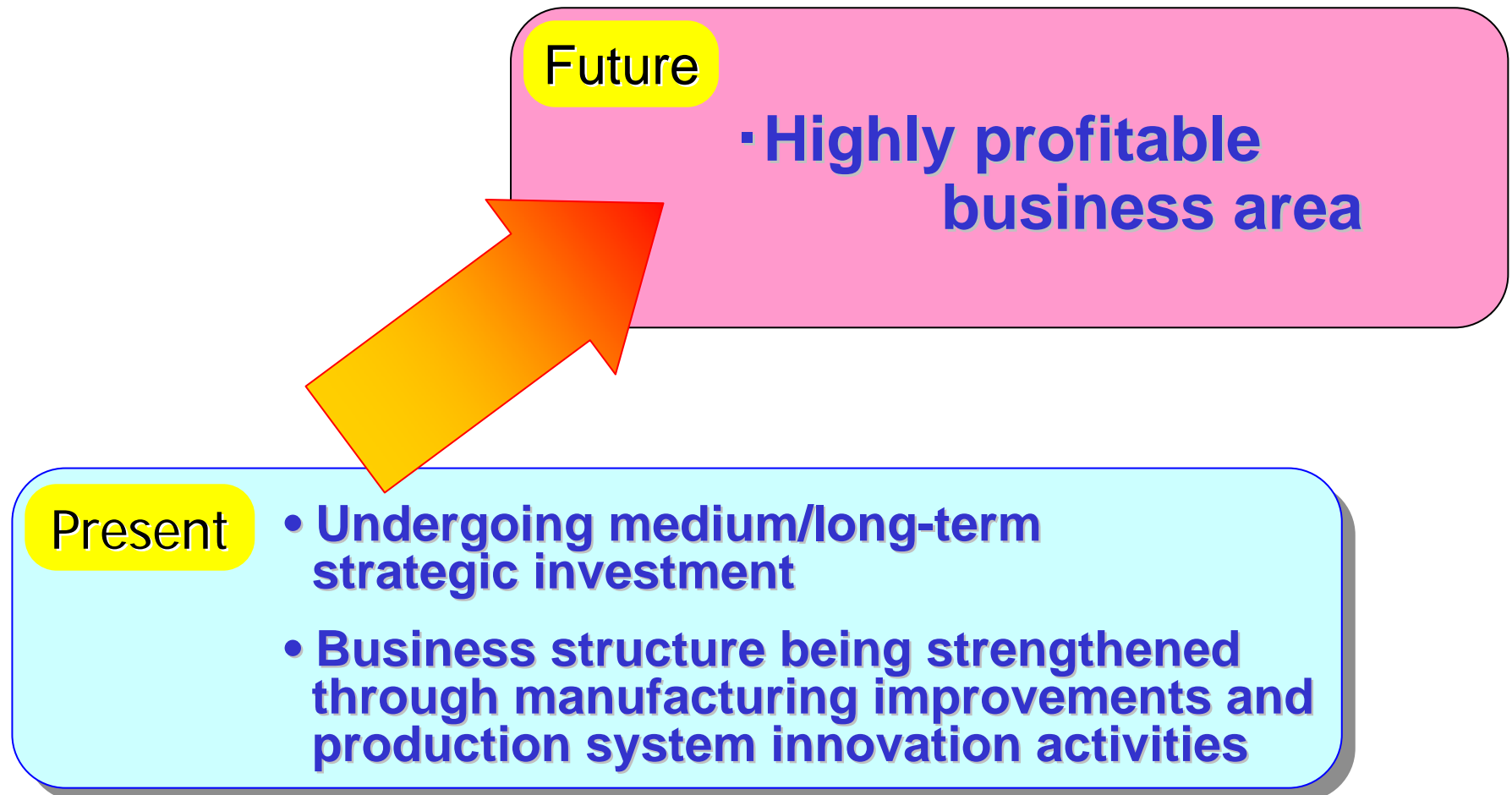
Photo: JAXA

**H-IIB's first-stage tank combustion test was carried out successfully**

(April 22, 2009)

## 4. Summary

- **Aerospace business, an important growth area, is poised to become a strong earnings generator.**







Our Technologies, Your Tomorrow

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