

# BUSINESS to BUSINESS

## TARGET FOR JA2012

Exhibitors: Over **530**

Visitors: From over **22** countries

Trade visitors: Over **11,000**



## PRODUCTS AND SERVICES ON EXHIBIT



JA2012 is the international platform for service providers and suppliers in:

- Aircraft, aircraft engines, rockets, and satellite integration
- Sub-system manufacturing and component manufacturing
- Materials and semi-finished products
- Production engineering and process technology
- Engineering, qualification, and documentation
- Test equipment, calibration, and quality assurance
- Maintenance, modification, and tooling
- Surface treatment, environment, logistics, and security
- Instrumentation, electricity, and software

## ASIA'S TOP INTERNATIONAL TRADE SHOW

### Attractive business-matching opportunities

There are outstanding buyers all over the world, then we introduce suppliers to the buyers to open up substantial potential business opportunities for suppliers and buyers.

This includes business matching systems to support business discussions, profiles of each exhibitor, and systems that support inquiry making.

Japanese aerospace industry clusters are engaged in 16 projects involving some 600 companies. Many of the companies are located in the greater Nagoya area.

### Seminars & Symposia

The exhibition will also feature seminars and symposia on Japanese technologies and provide information on the state of the aviation industry.

An international business conference is also planned (the conference of the International Aerospace Quality Group held during JA2008 attracted some 300 participants from 20 countries).

A symposium will be held on global environmental measures as they relate to a range of fields such as manufacturing, shipping, and maintenance.



### Plant tours & Other services

We are also planning plant tours for administrated trade visitors to nearby manufacturing plants, research centers.

The conference center is Wi-Fi equipped, and our administrative office is working to leverage the power of networking to maximize business opportunities for all exhibitors.

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This event is subsidized by JKA through its Promotion funds from KEIRIN RACE.

Achieve Your Business Goals at

# JAPAN INTERNATIONAL AEROSPACE EXHIBITION

## October 9 (Tue) to 14 (Sun) 2012

NAGOYA, JAPAN



# RISING JAPANESE TECHNOLOGY, PROVEN NAGOYA POTENTIAL

Greater Nagoya is Asia's largest hub for aerospace manufacturing. In 2012, aerospace companies and industry organizations from Japan and around the world will converge here to lift global aerospace technology and manufacturing to new heights at:

## Japan International Aerospace Exhibition 2012

Schedule : October 9 (Tue) to 14 (Sun), 2012

Organizer : The Society of Japanese Aerospace Companies (SJAC)

### VENUE 1 PORT MESSE NAGOYA

Trade Day : October 9 (Tue) to 12 (Fri) for industry participants only

Public Day: October 12 (Fri) to 14 (Sun)

\* Friday, October 12, is set up as an overlapping trade/public day, which enables student recruiting opportunities.



Port Messe Nagoya is Central Japan's largest international exhibition center. Built on the theme 'inspired communication with the world,' it has hosted many events and received participants from all over the globe.

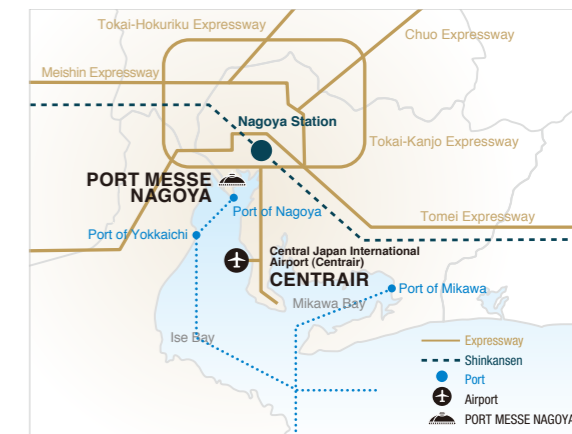
In addition to the conference hall, conference rooms, event hall, and restaurant, three separate exhibition halls offer 34,000m<sup>2</sup> of floor space. The Aonami Line connects Nagoya Station with nearby Kinjo-futo Station in 24 minutes.



### VENUE 2 CENTRAIR Central Japan International Airport

Public Day: October 12 (Fri) to 14 (Sun), 2012

The Central Japan International Airport (Centrair), opened in 2005, is Japan's newest international air hub, with flights to 30 overseas destinations. It is a key transportation mode for the numerous industries of Central Japan, and has become established as a safe, convenient, environmentally conscious airport that is easily accessible to all. Direct express trains link Centrair with Nagoya Station in 28 minutes.



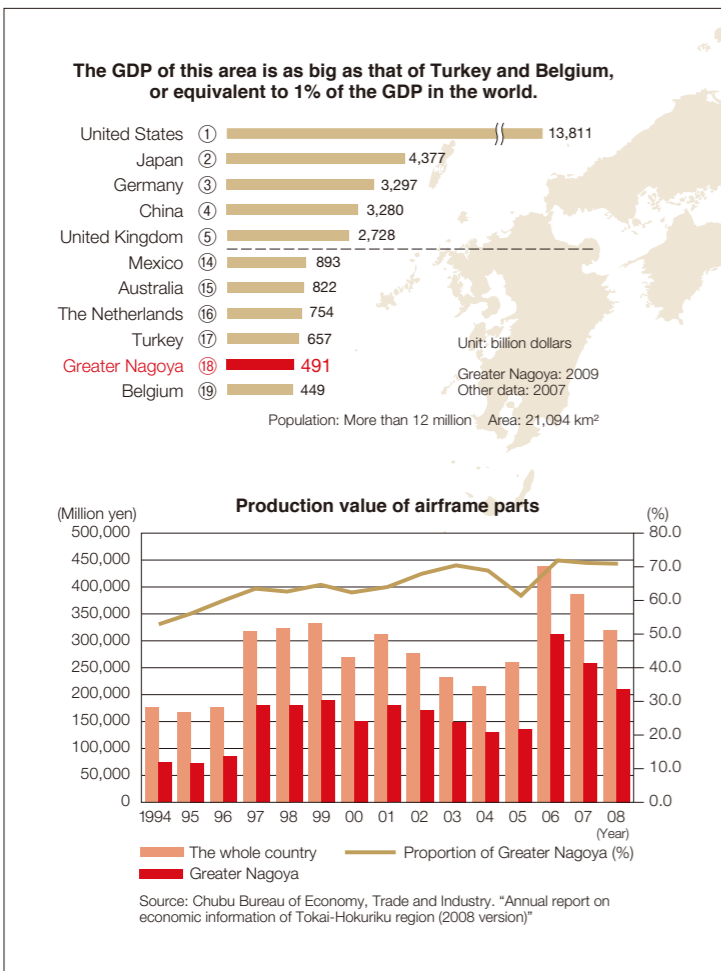
# WHY NAGOYA?

# STATE OF THE ART TECHNO

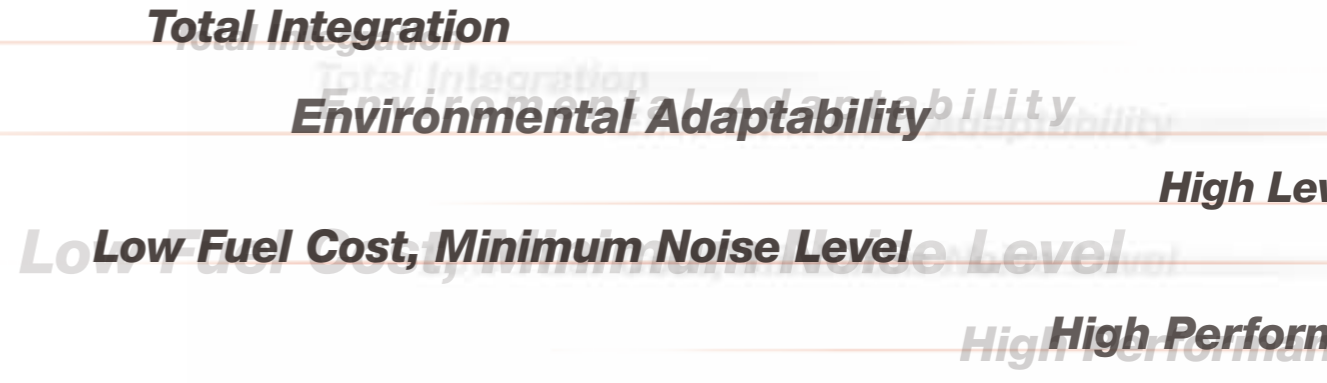
## ASIA'S LARGEST AEROSPACE INDUSTRIAL AREA

Nagoya lies at the center of Japan, and the greater Nagoya economic area extends for a radius of some 100km around the city. The region features advanced IT and economic infrastructure and includes companies that help drive the global economy as well as a high concentration of mid-sized companies with outstanding technology and service offerings. If viewed as a separate country, it would have the 18th largest GDP in the world. It features Japan's highest concentration of aerospace industry companies, whose combined sales of aerospace components rank 5th\* worldwide and comprise 70% of domestic sales in the sector.

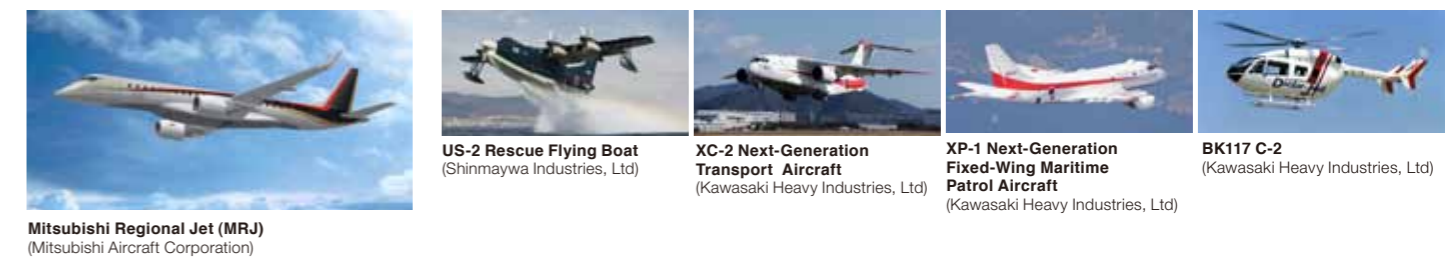
\* 1st Seattle, 2nd Toulouse, 3rd South West of England, 4th Montreal, 5th Greater Nagoya.



## AIRCRAFT DEVELOPMENT



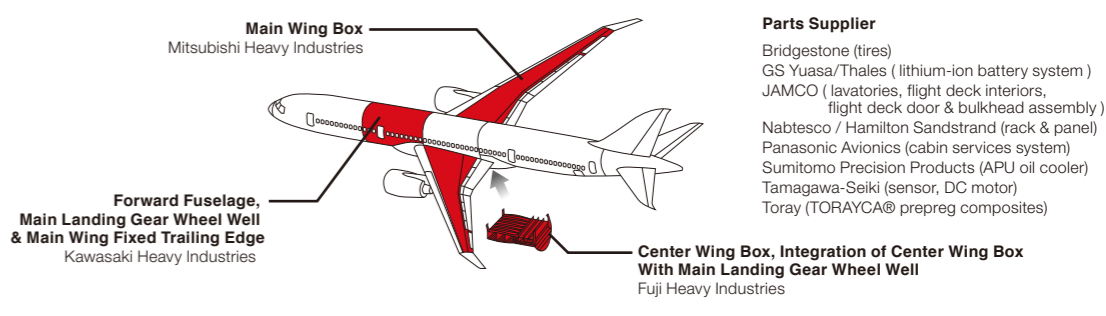
### Indigenous Programs



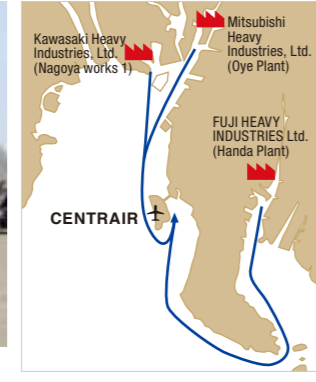
### International Joint Programs

**35% of B787**

Boeing	35%
<b>Japan</b>	<b>35%</b>
Vought / Alenia	26%
Other	4%



B787 Component's ship to Seattle



Japanese aerospace technological capabilities in this field have gained steadily in reputation year after year. Japan's work share is 15% for the Boeing 767, 21% for the 777, and 35% for the 787, and includes manufacturing of safety critical composite wings. Components for Boeing are made in the greater Nagoya area and shipped to Centrair by marine transport where a "Dreamlifter" flies them to Seattle. This includes main wing boxes from MHI, forward fuselages from KHI, and center wing boxes from FHI.

### THE FUTURE OF JAPAN'S AEROSPACE INDUSTRY

**Japanese-led development of civilian aircraft**  
Japanese companies achieve high competitiveness by making the most of Japan's well-known strengths in advanced material and component technologies as well as technological know-how cultivated through international joint development projects.

**Playing growing roles in international joint development projects**  
Japanese companies are major players in international joint development projects with Boeing and others for medium and large aircraft. Their roles in projects will grow further, building on advanced technological capabilities in components and materials gained through development work on Japanese civil aircraft.

**Further reaches of innovation in the component and materials industry**  
Japanese companies, already world-class in the components and materials industry, are steadily working toward further advancements, maintaining their key global roles in these fields.

### THE ESSENCE OF HIGH ADDED & RELIABILITY



# LOGIES

## HIGH-GRADE MATERIALS AND COMPONENTS

High Reliability

Product Management

Advanced Materials

V2500

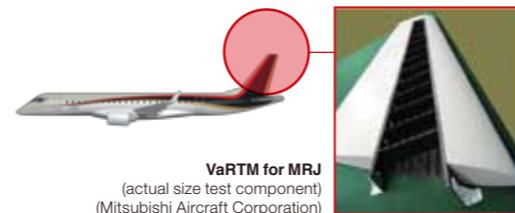


Program partner 23%

CF34



Risk share partner 30%



VaRTM for MRJ  
(actual size test component)  
(Mitsubishi Aircraft Corporation)



Cockpit Display  
(Yokogawa Electric Corporation)



Fan Case Front for V2500 Turbo Engine  
(Kobe Steel, Ltd.)



Carbon Fiber (TORAY)



Flight Control Actuation Systems  
(Nabtesco Corporation)



Landing Gears  
(Sumitomo Precision Products Co., Ltd.)

## WORLD CLASS ROCKETS & SATELLITES

Emerging Technology

High Reliability

High Performance

Total Integration

1

H-IIA



© JAXA

H-IIB



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2

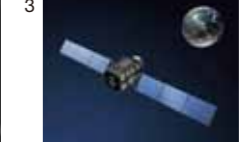


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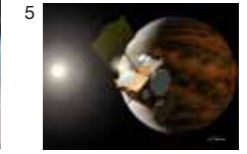


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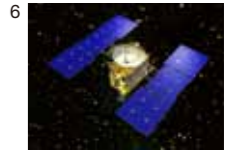
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## COMPANIES

150 SJAC member companies

### Japanese Clusters

16 projects involving over 600 companies are now underway, involving networks that include participants from industry, academia, and government. By creating unified supply chains, these industry clusters are able to provide complete end-to-end services that are attracting the attention of companies in Japan and overseas.

#### Examples include:

- The Chubu Aerospace Industry and Technology Center
- The Manten Project
- The Japan Aerospace Parts Association
- The Tochigi Aerospace Conference
- The Meiyu Aerospace Support Technology Team
- The Aerospace Consortium of AKITA etc.

### Examples of the R&D results

Machining technologies for hard, heat-resistant Inconel superalloys (MIZUKI Industrial Co., Ltd.)

- Used in spacecraft engines and space rocket engines (Inconel 625, Inconel 718)



Cutting technologies for carbon fiber composite materials

(Imai Aero-Equipment Mfg. Co., Ltd.)

- Dust-resistant, fast, high-precision



Cutting technology development

(Tokuda Industry Co. Ltd.)

- Fast, efficient cutting of Invar and titanium



## SPACECRAFT & COMPONENTS

### 1. H-IIA/H-IIB Launch Systems (MHI)

The H-IIA is Japan's leading large launch vehicle, with a track record of 11 consecutive successful launches, making it the world's most reliable rocket, with a 94% success rate. In Sep 2009, a Higher lift capacity rocket H-IIB successfully delivered the H-II Transfer Vehicle (HTV) on a resupply mission to the International Space Station (ISS).

### 2. H-II Transfer Vehicle (MHI)

The HTV is designed to deliver basic supplies such as water, food and clothing, as well as experimental equipment, to the ISS. The unmanned vehicle is launched by an H-IIB rocket, and approaches the ISS automatically.

### 3. Michibiki Quasi-Zenith Satellite-1 (MELCO)

Michibiki is the first satellite of the Quasi-Zenith Satellite System to carry out verification for technological aspects and utilization in order to complement and reinforce the GPS. It's to be launched on H-IIB #18.

### 4. SERVIS-2 (MELCO)

The SERVIS project is intended to establish a technology baseline for using Commercial-Off-The-Shelf parts and technologies for space application. SERVIS-2 was launched in Jun 2010.

### 5. Akatsuki Planet-C (Venus Climate Orbiter) (NEC)

Akatsuki, also known as Planet-C, is on a mission to investigate atmospheric phenomena below the cloud layer on Venus using advanced instruments. It was launched in May 2009 on H-IIA #17 and is scheduled to enter Venus orbit in Dec 2010.

### 6. Hayabusa Mu Space Engineering Spacecraft-C (MUSES-C) (NEC Toshiba Space Systems)

Asteroid explorer Hayabusa, with assistance from its ion engine, flew to the asteroid Itokawa, autonomously approached it,

collected a sample from its surface, and returned to Earth with the sample. It was launched in May 2003 on an M-V rocket and returned to Earth successfully in Jun 2010.

### 7. 500N Apogee Engine (IHI Aerospace Co., Ltd.)

IHI Aerospace developed the 500 newton (N) class liquid apogee engine for satellites from geosynchronous transfer orbit (GTO) into geostationary orbit (GSO). This engine has high performance, and the products are used well in world market.

### 8. Lithium-ion batteries (GS Yuasa)

Satellites use large lithium-ion batteries as a supplemental power system when their orbits take them into the shadow of the Earth, which interrupts power from their solar cell arrays. Such batteries feature long operating lives of 15 years and high power output per unit of mass.