

JAPANESE SPACE INDUSTRY ANNUAL SURVEY REPORT - FY2009 Results Summary -

1. Purpose, Methodology, and Scope

The Society of Japanese Aerospace Companies (SJAC) has been publishing the “Japanese Space Industry Annual Survey Report” every year to determine the status of the space industry in Japan. This survey was based on the response by Japanese space industry companies (mainly SJAC members) to a questionnaire. This report is a summary of the “Japanese Space Industry Annual Survey Report FY2009 Results”.

We divided the space-related industry into four groups:

This report deals with the first category in the figure, *Space Industry*.

- *Space Industry*

Manufacturing satellites, launch vehicles, a space station, ground facilities and equipment, components, parts, materials, and software; includes sales of trading companies

- *Space Utilization Service Industry*

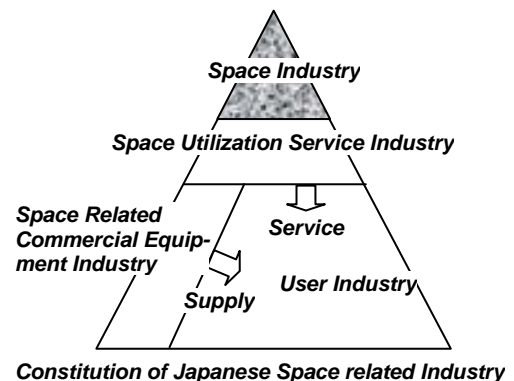
Providing services utilizing space infrastructure such as satellite communications, broadcasting, positioning, earth observation, and satellite launch services

-*Space-Related Commercial Equipment Industry*

Manufacturing the hardware to facilitate the use of the above services, such as BS (broadcast satellite) / CS (communication satellite) TV tuners, car navigation units, and cellular phones with GPS receivers

-*User Industry*

Implementing business by purchasing and utilizing the services provided by the space utilization service industry and the space-related commercial equipment industry, such as satellite broadcasting content service, weather forecasting service, used car information service, convenience store information service, cellular phone navigation service, ship navigation and communication service



The report distinguishes between sales for the final domestic demand (sales to JAXA (Japan Aerospace Exploration Agency), and other Japanese government agencies; sales to Japanese satellite

communication broadcasting companies; etc.) and sales for the intermediate domestic demand (sales to Japanese rocket manufacturers, satellite manufacturers, etc.). In terms of the import and export values, sales of the trading companies and sales of the space industry without trading companies are distinguished. The amount of the increase or decrease in monetary figures is given in relation to the previous fiscal year unless otherwise noted.

2. Summary, FY2009

(1) Sales in FY2009

Japanese space industry sales in FY2009 totaled ¥269.7 billion (US\$3.173 billion at an exchange rate of ¥85/US\$). This amount is ¥10.6 billion more (a 4% increase) than the previous fiscal year; this figure grew in the second consecutive year. The main factor of sales growth is an increase in sales related to space stations and launch vehicles.

The breakdown of sales amount changes are as follows:

- (i) Space vehicle segment sales increased by ¥23.1 billion.
 - Launch vehicle-related sales increased by ¥13.3 billion.
 - Space shuttle and orbital plane-related sales increased by ¥1.3 billion.
 - Satellite-related sales decreased by ¥5.9 billion.
 - Space station-related sales increased by ¥14.3 billion.

- (ii) Ground facilities segment sales decreased by ¥16.8 billion.

- (iii) Software segment sales increased by ¥4.3 billion.

Although there are some differences by a year, total sales have been increasing gradually from FY2005 to FY2009. However, compared with a peak of ¥379 billion in FY1998, sales in FY2009 account for only about 70% of that amount.

On the basis of the questionnaire survey, the predicted sales of ¥254.4 billion for FY2010 and ¥272.4 billion for FY2011 are almost close to the actual value of ¥269.7 billion in FY2009.

Sales for the domestic final demand combined with the export value of the space industry without trading companies are nearly close to the market size of the Japanese space industry, increased by ¥8.2 billion (5%) to ¥185.6 billion and are equal to 69% of the total value of the Japanese space industry (¥269.7 billion).

(2) Sales by segment

(i) Space vehicles

In the space vehicle segment, total sales have increased by ¥23.1 billion (11%) to ¥225.6 billion from the previous fiscal year, the second consecutive year of increase.

- Launch vehicles

The launch vehicle-related sales in the space vehicle segment increased by ¥13.3 billion (39%) to ¥47.5 billion. Two rockets were launched in FY2009: the H-II Transfer Vehicle (HTV) Technical Demonstrator by the H-IIB rocket test vehicle and the information-gathering Optical No. 3 Satellite by the 16th H-IIA rocket.

- Space shuttle and orbital plane

Space shuttle and orbital plane-related sales in the space vehicle segment increased by ¥1.3 billion (14%) to ¥10.7 billion. The HTV Technical Demonstrator was carried into space by the H-IIB rocket test vehicle in FY2009.

- Satellite

Satellite related-sales in the space vehicle segment decreased by ¥5.9 billion (4%) to ¥133.5 billion. The information-gathering Optical No. 3 Satellite was launched by the H-IIA rocket in FY2009.

- Space station

Space station-related sales in the space vehicle segment increased by ¥14.3 billion (73%) to ¥33.9 billion. The Exposed Facility of Japanese Experiment Module “Kibo” of the International Space Station was launched by a United States space shuttle in FY2009.

(ii) Ground facilities

In the ground facilities segment, total sales decreased by ¥16.8 billion (36%) to ¥29.6 billion. Sales in FY2009 account for only 22% of the peak of ¥135 billion in FY1998 .

(iii) Software

In the software segment, total sales increased by ¥4.3 billion (42%) to ¥14.5 billion from the previous fiscal year.

Table 1. Sales by Segment

(Unit : Million Yen)

Segment	FY2009		(reference) FY2008		(A)/(B) (%)	(A)-(B)
	(A) Sales	(%) Percentage	(B) Sales	(%) Percentage		
Solid Rocket	10,279	3.8	8,982	3.5	114	1,297
Liquid Propellant Rocket	36,847	13.7	24,392	9.4	151	12,455
Launching Expenditure	343	0.1	772	0.3	44	-429
Launch Vehicles (Subtotal)	47,469	17.6	34,146	13.2	139	13,322
Space Shuttles, Orbital Planes	10,715	4.0	9,426	3.6	114	1,289
System·Bus Equipment	83,323	30.9	85,963	33.2	97	-2,640
Mission Equipment	40,725	15.1	41,637	16.1	98	-912
Tracking & Data Relay	9,452	3.5	11,772	4.5	80	-2,320
Satellite (Subtotal)	133,500	49.5	139,372	53.8	96	-5,872
Space Station	33,882	12.6	19,533	7.5	173	14,349
Space Vehicles (Subtotal)	225,566	83.6	202,477	78.2	111	23,089
Development Test Device	4,178	1.5	3,340	1.3	125	838
Launching Device	6,841	2.5	12,438	4.8	55	-5,597
Satellite Tracking Device	6,878	2.6	4,678	1.8	147	2,200
Comm.& Broadcasting Satellite Equipment	31	0.0	29	0.0	107	2
Satellite Data Handling Equipment	1,288	0.5	9,847	3.8	13	-8,559
GPS Equipment	0	0.0	15	0.0	0	-15
Ground Experimental Device	5	0.0	4	0.0	125	1
Other Ground Equipment	10,392	3.9	16,024	6.2	65	-5,632
Ground Facilities (Subtotal)	29,613	11.0	46,375	17.9	64	-16,762
Software Development	5,776	2.1	4,715	1.8	123	1,061
Data Processing & Analysis	8,708	3.2	5,519	2.1	158	3,189
Software (Subtotal)	14,484	5.4	10,234	3.9	142	4,250
Total	269,663	100.0	259,087	100.0	104	10,577

Table 1.1. Sales Trends by Segment

(Unit : Million Yen)

Fiscal Year	Total Sales	Index	Sales by Segment		
			Space Vehicles	Ground Facilities	Software
FY1990	260,400	100	156,203	94,802	9,395
FY1991	265,435	102	156,911	96,346	12,178
FY1992	308,007	118	175,705	120,005	12,297
FY1993	302,078	116	176,361	112,715	13,002
FY1994	309,725	119	187,511	103,783	18,431
FY1995	354,614	136	230,360	101,078	23,176
FY1996	338,661	130	223,173	95,891	19,597
FY1997	378,517	145	254,079	105,730	18,708
FY1998	378,896	146	227,991	135,435	15,470
FY1999	346,532	133	221,104	104,246	21,181
FY2000	369,944	142	273,045	78,229	18,670
FY2001	361,777	139	236,938	105,637	19,202
FY2002	336,184	129	251,036	67,565	17,583
FY2003	240,684	92	185,216	40,678	14,790
FY2004	218,849	84	168,454	34,063	16,332
FY2005	223,669	86	167,411	37,547	18,711
FY2006	234,794	90	177,216	37,762	19,816
FY2007	226,425	87	175,571	33,211	17,642
FY2008	259,087	99	202,477	46,375	10,234
FY2009	269,663	104	225,566	29,613	14,484
*(FY2010)	(254,385)	(98)	(215,907)	(24,535)	(13,943)
*(FY2011)	(272,414)	(105)	(228,966)	(29,344)	(14,105)

*(FY2010) and *(FY2011) are prediction based on answers from companies.

(3) Domestic Demand and Exports

Sales for the domestic demand increased by ¥6.6 billion (3%) to ¥249.6 billion. Exports increased by ¥4 billion (25%) to ¥20 billion.

Sales to meet domestic demand accounted for 93% while exports accounted for 7% of total space industry sales. Exports increased by 1% as a percentage of total space industry sales.

In the domestic demand, sales for the final domestic demand increased by ¥1.3 billion (1%) to ¥166.2 billion and decreased by 2% to 62% of total space industry sales. Sales for the intermediate domestic demand increased by ¥5.3 billion (7%) to ¥83.5 billion. As a percentage of total space industry sales, it represents an increase of 1% to 31%.

Exports without trading companies increased by ¥6.9 billion (55%) to ¥19.4 billion, which equals 7% of total space industry sales. Exports of trading companies was ¥0.6 billion and equal to 0.2% of the total space industry sales.

The combined sales ("total sales (a) + (c)" in Table 2) for the domestic final demand and export amount without trading companies are almost equal to the market size of the space industry and increased by ¥8.2 billion (5%) to ¥185.6 billion. It is equal to 69% of total space industry sales.

Table 2. Sales for Domestic Demand and Export

(Unit : Million Yen)

category		FY2009		(reference) FY2008		(A)/(B) (%)	(A)-(B)
		(A) Sales	(%) Percentage	(B) Sales	(%) Percentage		
Domestic Demand	(a)*1 Final demand	166,171	61.6	164,856	63.6	101	1,315
	(b)*2 Intermediate demand	83,452	30.9	78,201	30.2	107	5,251
		249,623	92.6	243,057	93.8	103	6,566
Export	(c)*3 Without trading company	19,420	7.2	12,507	4.8	155	6,913
	(d) Trading Company	620	0.2	3,522	1.4	18	-2,902
		20,040	7.4	16,029	6.2	125	4,011
(a)+(c) Total Sales		185,591	68.8	177,364	68.5	105	8,228
(a)+(b)+(c)+(d) Total Sales		269,663	100	259,087	100	104	10,577

*1 Final demand in this report is JAXA,Other Government Agencies,Other Public Organization and Satellite Communications & Broadcasting.

*2 Intermediate demand in this report is Special Organization for Space Activities, Major Rocket Manufacturers, Major Satellite Manufacturers and Other Clients.

*3 "Without trading company" in this report means the space industry without trading companies.

Table 2.1. Sales Trend for Domestic Demand and Export

(Unit : Million Yen)

Fiscal Year	(a)+(b)+(c)+(d) Total Sales	(a)+(c) Total Sales	Sales for Domestic Demand			Export			Percentage (%)					
			(a)*1 Final demand	(b)*2 Intermediate demand	Total	(c)*3 Without trading company	(d) Trading Company	Total	Sales for Domestic Demand			Export		
									*1 Final demand	*2 Intermediate demand	Total	*3 Without trading company	Trading Company	Total
FY1990	260,400	-	-	-	227,761	-	-	32,639	-	-	87.5	-	-	12.5
FY1991	265,435	-	-	-	229,739	-	-	35,696	-	-	86.6	-	-	13.4
FY1992	308,007	-	-	-	261,105	-	-	46,902	-	-	84.8	-	-	15.2
FY1993	302,078	-	-	-	259,003	-	-	43,075	-	-	85.7	-	-	14.3
FY1994	309,725	-	-	-	277,907	-	-	31,818	-	-	89.7	-	-	10.3
FY1995	354,614	-	-	-	329,057	-	-	25,557	-	-	92.8	-	-	7.2
FY1996	338,661	-	-	-	257,900	-	-	80,761	-	-	76.2	-	-	23.8
FY1997	378,517	-	-	-	306,483	-	-	72,034	-	-	81.0	-	-	19.0
FY1998	378,896	283,765	224,345	82,925	307,270	59,420	12,206	71,626	-	-	81.1	-	-	18.9
FY1999	346,532	283,482	235,061	61,350	296,411	48,421	1,700	50,121	67.8	17.7	85.5	14.0	0.5	14.5
FY2000	369,944	280,420	250,793	87,470	338,263	29,627	2,055	31,682	67.8	23.6	91.4	8.0	0.6	8.6
FY2001	361,777	296,063	261,028	65,240	326,269	35,035	473	35,508	72.2	18.0	90.2	9.7	0.1	9.8
FY2002	336,184	260,229	231,904	75,779	307,683	28,325	176	28,501	69.0	22.5	91.5	8.4	0.1	8.5
FY2003	240,684	190,477	178,134	50,139	228,274	12,343	67	12,410	74.0	20.8	94.8	5.1	0.0	5.2
FY2004	218,849	172,715	160,699	45,936	206,635	12,016	198	12,214	73.4	21.0	94.4	5.5	0.1	5.6
FY2005	223,669	166,364	157,768	57,071	214,839	8,596	234	8,830	70.5	25.5	96.1	3.8	0.1	3.9
FY2006	234,794	174,547	164,013	59,966	223,979	10,534	281	10,815	69.9	25.5	95.4	4.5	0.1	4.6
FY2007	226,425	149,554	141,030	76,694	217,724	8,524	177	8,701	62.3	33.9	96.2	3.8	0.1	3.8
FY2008	259,087	177,364	164,856	78,201	243,057	12,507	3,522	16,029	63.6	30.2	93.8	4.8	1.4	6.2
FY2009	269,663	185,591	166,171	83,452	249,623	19,420	620	20,040	61.6	30.9	92.6	7.2	0.2	7.4

*1 Final demand in this report is JAXA,Other Government Agencies,Other Public Organization and Satellite Communications & Broadcasting.

*2 Intermediate demand in this report is Special Organization for Space Activities, Major Rocket Manufacturers, Major Satellite Manufacturers and Other Clients.

*3 "Without trading company" in this report means the space industry without trading companies.

*4 -mark indicates SJAC has no data.

(4) Domestic demand

Total sales for domestic demand increased by 6.6 billion (3%) to 249.6 billion, or 97% of the total space industry sales. Sales to JAXA increased by ¥11.7 billion (9%) to ¥148.3 billion, equal to 59% of the total domestic demand. JAXA has the largest percentage in the same situation in the past.

Table 3. Sales for Domestic Demand

(Unit : Million Yen)

category	FY2009		(reference) FY2008		(A)/(B) (%)	(A)-(B)
	(A) Sales	(%) Percentage	(B) Sales	(%) Percentage		
Japan Aerospace Exploration Agency	148,276	59.4	136,586	56.2	109	11,691
Other Government Agencies	4,621	1.9	13,848	5.7	33	-9,227
Other Public Organaization	12,818	5.1	1,575	0.6	814	11,243
Satelite Communications & Broadcasting	456	0.2	12,848	5.3	4	-12,392
Final demand (Subtotal)	166,171	66.6	164,856	67.8	101	1,315
Special Organaization for Space Activities	5,262	2.1	3,476	1.4	151	1,786
Major Rocket Manufacturers	22,804	9.1	19,631	8.1	116	3,173
Major Satelite Manufacturers	52,412	21.0	48,585	20.0	108	3,827
Others	2,974	1.2	6,509	2.7	46	-3,535
Intermediate demand (Subtotal)	83,452	33.4	78,201	32.2	107	5,251
Total	249,623	100	243,057	100	103	6,566

(5) Exports

Total exports increased by ¥4 billion (25%) to ¥20 billion, or 7% of the total space industry sales. It has increased for two consecutive years, and the decreasing tendency from FY1997 might be overcome. The main factor responsible for the increase is the sales of space vehicles.

Exports without trading companies increased by ¥6.9 billion (55%) to ¥19.4 billion, and it is equal to 97% of the total export amount. The export amount of trading companies is ¥0.6 billion and is equal to 3% of the total exports.

In terms of region, exports to North America, Europe, and Asia comprised 100% of the total amount. In these regions, the increase to Asia is especially remarkable.

Table 4. Export by Segment

(Unit : Million Yen)

Segment	FY2009				(reference) FY2008				(A)/(B) (%)	(A)-(B)
	Export			(% Percentage)	Export			(% Percentage)		
	*3 Without trading company	Trading Company	(A) Total		*3 Without trading company	Trading Company	(B) Total			
Solid Rocket	0	0	0	0.0	0	0	0	0.0	0	0
Liquid Propellant Rocket	639	0	639	3.2	60	0	60	0.4	1065	579
Launching Expenditure	0	0	0	0.0	0	0	0	0.0	0	0
Launch Vehicles (Subtotal)	639	0	639	3.2	60	0	60	0.4	1065	579
Space Shuttles, Orbital Planes	518	0	518	2.6	0	0	0	0.0	0	518
System·Bus Equipment	13,099	20	13,119	65.5	7,405	22	7,427	46.3	177	5,692
Mission Equipment	5,159	600	5,759	28.7	4,960	3,500	8,460	52.8	68	-2,701
Tracking & Data Relay	0	0	0	0.0	0	0	0	0.0	0	0
Satellite (Subtotal)	18,258	620	18,878	94.2	12,365	3,522	15,887	99.1	119	2,991
Space Station	4	0	4	0.0	0	0	0	0.0	0	4
Space Vehicles (Subtotal)	19,419	620	20,039	100.0	12,425	3,522	15,947	99.5	126	4,092
Development Test Device	0	0	0	0.0	0	0	0	0.0	0	0
Launching Device	0	0	0	0.0	0	0	0	0.0	0	0
Satellite Tracking Device	0	0	0	0.0	0	0	0	0.0	0	0
Comm.& Broadcasting Satellite Equipment	0	0	0	0.0	0	0	0	0.0	0	0
Satellite Data Handling Equipment	0	0	0	0.0	0	0	0	0.0	0	0
GPS Equipment	0	0	0	0.0	0	0	0	0.0	0	0
Ground Experimental Device	0	0	0	0.0	0	0	0	0.0	0	0
Other Ground Equipment	0	0	0	0.0	0	0	0	0.0	0	0
Ground Facilities (Subtotal)	0	0	0	0.0	0	0	0	0.0	0	0
Software Development	0	0	0	0.0	0	0	0	0.0	0	0
Data Processing & Analysis	1	0	1	0.0	82	0	82	0.5	1	-81
Software (Subtotal)	1	0	1	0.0	82	0	82	0.5	1	-81
Total	19,420	620	20,040	100.0	12,507	3,522	16,029	100.0	125	4,011

*3 "Without trading company" in this report means the space industry without trading companies.

Table 4.1. Export Trends by Segment

(Unit : Million Yen)

Fiscal Year	Export			Index	Export by Segment		
	*3 Without trading company	Trading Company	Total		Space Vehicles	Ground Facilities	Software
FY1990	-	-	32,639	100	10,225	22,414	0
FY1991	-	-	35,696	109	9,867	25,794	35
FY1992	-	-	46,898	144	17,059	29,832	7
FY1993	-	-	43,075	132	20,465	22,602	8
FY1994	-	-	31,818	97	11,944	19,874	0
FY1995	-	-	25,557	78	7,948	17,609	0
FY1996	-	-	80,761	247	58,508	22,239	14
FY1997	-	-	72,034	221	38,673	33,299	62
FY1998	59,420	12,206	71,626	219	24,632	46,667	327
FY1999	48,421	1,700	50,121	154	17,514	32,570	37
FY2000	29,627	2,055	31,682	97	15,872	15,810	0
FY2001	35,035	473	35,508	109	12,684	22,824	0
FY2002	28,325	176	28,501	87	27,249	1,251	0
FY2003	12,343	67	12,410	38	11,470	935	5
FY2004	12,016	198	12,214	37	11,026	1,169	19
FY2005	8,596	234	8,830	27	7,618	1,130	82
FY2006	10,534	281	10,815	33	10,672	51	92
FY2007	8,524	177	8,701	27	8,164	0	537
FY2008	12,507	3,522	16,029	49	15,947	0	82
FY2009	19,420	620	20,040	61	20,039	0	1

*3 "Without trading company" in this report means the space industry without trading companies.

*4 -mark indicates SJAC has no data.

Table 4.2. Export by Region

(Unit : Million Yen)

Destination	FY2009				(reference) FY2008				(A)/(B) (%)	(A)-(B)
	Export			(A) Total	Export			(B) Total		
	*3 Without trading company	Trading Company	(%) Percentage		*3 Without trading company	Trading Company	(%) Percentage			
Asia	8,752	600	9,352	46.7	1,361	3,000	4,361	27.2	214	4,991
Middle East	0	0	0	0.0	0	0	0	0.0	0	0
Africa	0	0	0	0.0	0	0	0	0.0	0	0
North America	6,172	20	6,192	30.9	6,473	22	6,495	40.5	95	-303
Europe	4,496	0	4,496	22.4	4,662	500	5,162	32.2	87	-666
Latin America	0	0	0	0.0	11	0	11	0.1	0	-11
Oceania	0	0	0	0.0	0	0	0	0.0	0	0
Total	19,420	620	20,040	100	12,507	3,522	16,029	100	125	4,011

*3 "Without trading company" in this report means the space industry without trading companies.

(6) Imports

Total imports decreased by ¥10.1 billion (27%) to ¥27.7 billion. A decline of the space vehicle segment by ¥10.5 billion can be mainly attributed. However, this segment still occupies a large percentage (97%) of the total imports.

The import without trading companies has declined by ¥11.9 billion (38%) to ¥19.3 billion, or 70% of the total imports. The import of the trading companies has increased by ¥1.8 billion (28%) to ¥8.4 billion, or 30% of the total imports.

In terms of region, imports from North America and Europe formed 100% of the the total imports.

Table 5. Import by Segment

(Unit : Million Yen)

Segment	FY2009				(reference) FY2008				(A)/(B) (%)	(A)-(B)
	Import			(% Percentage	Import			(% Percentage		
	*3(C) Without trading company	Trading Company	(A) Total		*3(C) Without trading company	Trading Company	(B) Total			
Solid Rocket	824	634	1,458	5.3	728	803	1,531	4.1	95	-73
Liquid Propellant Rocket	2,423	606	3,029	10.9	2,327	131	2,458	6.5	123	571
Launching Expenditure	0	0	0	0.0	0	0	0	0.0	0	0
Launch Vehicles (Subtotal)	3,247	1,240	4,487	16.2	3,055	934	3,989	10.6	112	498
Space Shuttles, Orbital Planes	1,285	676	1,961	7.1	2,704	696	3,400	9.0	58	-1,439
System·Bus Equipment	6,436	2,203	8,639	31.2	10,570	2,513	13,083	34.7	66	-4,444
Mission Equipment	5,805	2,911	8,716	31.5	4,957	512	5,469	14.5	159	3,247
Tracking & Data Relay	145	0	145	0.5	8,732	0	8,732	23.1	2	-8,587
Satellite (Subtotal)	12,386	5,114	17,500	63.2	24,259	3,025	27,284	72.3	64	-9,784
Space Station	1,923	1,008	2,931	10.6	994	1,760	2,754	7.3	106	177
Space Vehicles (Subtotal)	18,841	8,038	26,879	97.1	31,012	6,415	37,427	99.2	72	-10,548
Development Test Device	0	0	0	0.0	0	0	0	0.0	0	0
Launching Device	236	190	426	1.5	0	0	0	0.0	0	426
Satellite Tracking Device	98	7	105	0.4	30	104	134	0.4	78	-29
Comm.& Broadcasting Satellite Equipment	0	0	0	0.0	0	0	0	0.0	0	0
Satellite Data Handling Equipment	0	0	0	0.0	120	0	120	0.3	0	-120
GPS Equipment	0	0	0	0.0	0	0	0	0.0	0	0
Ground Experimental Device	0	0	0	0.0	0	0	0	0.0	0	0
Other Ground Equipment	0	73	73	0.3	0	55	55	0.1	133	18
Ground Facilities (Subtotal)	334	270	604	2.2	150	159	309	0.8	195	295
Software Development	103	90	193	0.7	2	0	2	0.0	9650	191
Data Processing & Analysis	0	0	0	0.0	0	0	0	0.0	0	0
Software (Subtotal)	103	90	193	0.7	2	0	2	0.0	9650	191
Total	19,278	8,398	27,676	100.0	31,164	6,574	37,738	100.0	73	-10,062

*3 "Without trading company" in this report means the space industry without trading companies.

Table 5.1. Import Trends by Segment

(Unit : Million Yen)

Fiscal Year	Import			Index	Import by Segment		
	*3 Without trading company	Trading Company	Total		Space Vehicles	Ground Facilities	Software
FY1990	-	-	39,095	100	37,306	1,657	132
FY1991	-	-	16,731	43	15,567	408	756
FY1992	-	-	38,820	99	36,960	792	1,068
FY1993	-	-	23,062	59	18,357	1,360	3,345
FY1994	-	-	41,744	107	36,885	3,367	1,492
FY1995	-	-	66,854	171	62,075	3,208	1,571
FY1996	-	-	22,597	58	20,553	1,811	233
FY1997	-	-	48,010	123	43,241	4,518	251
FY1998	17,696	22,777	40,473	104	35,508	4,812	153
FY1999	19,114	19,042	38,156	98	31,538	4,527	2,090
FY2000	21,686	39,734	61,420	157	57,965	3,075	380
FY2001	14,906	32,632	47,538	122	44,396	2,877	265
FY2002	17,764	18,388	36,152	92	32,973	3,120	58
FY2003	30,978	9,438	40,416	103	37,558	2,822	36
FY2004	11,164	6,590	17,754	45	16,846	808	100
FY2005	11,409	6,118	17,527	45	17,098	335	94
FY2006	15,770	6,388	22,158	57	21,772	315	71
FY2007	17,117	5,495	22,612	58	22,249	362	1
FY2008	31,164	6,574	37,738	97	37,427	309	2
FY2009	19,278	8,398	27,676	71	26,879	604	193

*3 "Without trading company" in this report means the space industry without trading companies.

*4 -mark indicates SJAC has no data.

Table 5.2. Import by Region

(Unit : Million Yen)

Destination	FY2009				(reference) FY2008				(A)/(B) (%)	(A)-(B)
	Import			(% Percentage	Import			(% Percentage		
	*3 Without trading company	Trading Company	(A) Total		*3 Without trading company	Trading Company	(B) Total			
Asia	0	0	0	0.0	2	0	2	0.0	0	-2
Middle East	3	0	3	0.0	14	0	14	0.0	21	-11
Africa	0	0	0	0.0	0	0	0	0.0	0	0
North America	14,405	6,996	21,401	77.3	18,354	5,876	24,230	64.2	88	-2,829
Europe	4,870	1,402	6,272	22.7	12,794	698	13,492	35.8	46	-7,220
Latin America	0	0	0	0.0	0	0	0	0.0	0	0
Oceania	0	0	0	0.0	0	0	0	0.0	0	0
Total	19,278	8,398	27,676	100.0	31,164	6,574	37,738	100.0	73	-10,062

*3 "Without trading company" in this report means the space industry without trading companies.

(7) Research and development expenses

Research and development expenses decreased by ¥0.3 billion (7%) to ¥4.4 billion.

Table 6. R&D Expenses by Segment

(Unit : Million Yen)

Segment	FY2009(A)		(reference) FY2008(B)		(A)/(B) (%)	(A)-(B)
	R&D Expenses	(%) Percentage	R&D Expenses	(%) Percentage		
Launch Vehicles	977	22.1	911	19.1	107	66
Space Shuttles, Orbital Planes	3	0.1	16	0.3	19	-13
Satellite	3,281	74.2	3,696	77.7	89	-415
Space Station	5	0.1	0	0.0	0	5
Space Vehicles (Subtotal)	4,266	96.5	4,623	97.1	92	-357
Ground Facilities	102	2.3	99	2.1	103	3
Software	55	1.2	37	0.8	149	18
Total	4,423	100.0	4,759	100.0	93	-336

Table 6.1. R&D Expenses Trends by Segment

(Unit : Million Yen)

Fiscal Year	Total Expenses	Index	R&D Expenses by Segment		
			Space Vehicles	Ground Facilities	Software
FY1990	13,878	100	9,494	3,339	1,045
FY1991	9,508	69	7,602	1,036	870
FY1992	16,608	120	9,241	4,174	3,193
FY1993	15,575	112	9,462	3,331	2,782
FY1994	16,872	122	10,108	2,823	3,941
FY1995	19,861	143	10,814	2,827	6,220
FY1996	18,595	134	8,046	3,492	7,057
FY1997	11,639	84	8,188	3,271	180
FY1998	8,703	63	4,445	4,163	95
FY1999	10,015	72	6,185	3,700	130
FY2000	6,333	46	3,526	2,646	161
FY2001	11,098	80	9,580	1,427	91
FY2002	13,023	94	12,487	395	141
FY2003	12,481	90	11,626	735	120
FY2004	5,143	37	4,990	44	109
FY2005	5,495	40	5,370	58	67
FY2006	5,814	42	5,644	120	50
FY2007	4,843	35	4,743	47	53
FY2008	4,759	34	4,623	99	37
FY2009	4,423	32	4,266	102	55

(8) Plant and equipment investment

The plant and equipment investment decreased by ¥0.2 billion (5%) to ¥5.1 billion.

Table 7. Plant and Equipment Investment by Segment

(Unit : Million Yen)

Segment	FY2009(A)		(reference) FY2008(B)		(A)/(B) (%)	(A)-(B)
	Investment	(%) Percentage	Investment	(%) Percentage		
Launch Vehicles	387	7.5	651	12.1	59	-264
Space Shuttles, Orbital Planes	1	0.0	0	0.0	0	1
Satellite	3,874	75.4	4,097	76.1	95	-223
Space Station	1	0.0	1	0.0	100	0
Space Vehicles (Subtotal)	4,263	83.0	4,749	88.3	90	-486
Ground Facilities	799	15.6	627	11.7	127	172
Software	75	1.5	5	0.1	1500	70
Total	5,137	100.0	5,381	100.0	95	-244

Table 7.1. Plant and Equipment Investment Trends by Segment

(Unit : Million Yen)

Fiscal Year	Total Investment	Index	Investment by Segment		
			Space Vehicles	Ground Facilities	Software
FY1990	9,448	100	6,300	2,485	663
FY1991	5,974	63	3,504	1,750	720
FY1992	8,142	86	3,251	4,180	711
FY1993	4,050	43	2,865	606	579
FY1994	6,152	65	4,976	466	710
FY1995	3,211	34	2,339	572	300
FY1996	4,828	51	2,614	1,934	280
FY1997	18,268	193	16,465	1,653	150
FY1998	6,717	71	4,620	1,984	113
FY1999	4,087	43	3,257	726	104
FY2000	6,406	68	5,924	351	131
FY2001	7,985	85	7,518	341	126
FY2002	4,565	48	4,401	85	79
FY2003	3,568	38	3,092	143	333
FY2004	3,328	35	2,840	44	444
FY2005	5,189	55	4,862	83	244
FY2006	4,681	50	3,980	295	406
FY2007	5,091	54	5,036	47	8
FY2008	5,381	57	4,749	627	5
FY2009	5,137	54	4,263	799	75

(9) Number of employees

The number of employees increased by 1,152 (22%) to 6,341. However, this represents only 61% of the peak value (10,400 employees) in FY1995.

Table 8. Number of Employees by Segment

(Unit : Persons)

Segment	end of March 2010(A)		(Reference) end of March 2009(B)		(A)/(B) (%)	(A)-(B)
	Number of Employee	(%) Percentage	Number of Employee	(%) Percentage		
Launch Vehicles	1,074	16.9	946	18.2	113	128
Space Shuttles, Orbital Planes	22	0.4	18	0.4	122	4
Satellite	2,425	38.2	2,139	41.2	113	286
Space Station	679	10.7	434	8.4	156	245
Space Vehicles (Subtotal)	4,200	66.2	3,538	68.2	119	662
Ground Facilities	1,233	19.4	1,099	21.2	112	134
Software	908	14.3	552	10.6	164	356
Total	6,341	100.0	5,188	100.0	122	1,152

Table 8.1. Number of Employee by Work Classification

Work Classification	end of March 2010(A)		(Reference) end of March 2009(B)		(A)/(B) (%)	(A)-(B)
	Number of Employee	(%) Percentage	Number of Employee	(%) Percentage		
Research & Development	2,760	43.5	2,385	46.0	116	374
Manufacturing	2,649	41.8	1,981	38.2	134	668
Clerical & Administration	932	14.7	822	15.8	113	110
Total	6,341	100.0	5,188	100.0	122	1,152

Table 8.2. Trend in Number of Employees by Segment

(Unit : Persons)

Fiscal Year	Total Employee	Index	Employee by Segment		
			Space Vehicles	Ground Facilities	Software
FY1990	10,107	100	6,049	2,939	1,119
FY1991	10,330	102	5,998	3,032	1,300
FY1992	10,281	102	5,962	2,989	1,330
FY1993	9,899	98	5,641	2,875	1,383
FY1994	10,019	99	5,857	2,888	1,274
FY1995	10,400	103	6,191	2,892	1,317
FY1996	8,621	85	5,045	2,301	1,275
FY1997	8,918	88	5,045	2,636	1,237
FY1998	8,346	83	4,896	2,302	1,148
FY1999	7,994	79	4,658	2,186	1,150
FY2000	7,148	71	4,297	2,022	829
FY2001	6,871	68	4,258	1,727	886
FY2002	6,733	67	4,233	1,575	925
FY2003	5,840	58	3,842	1,345	653
FY2004	6,378	63	4,254	1,144	980
FY2005	6,740	67	4,249	1,640	851
FY2006	6,593	65	4,078	1,700	815
FY2007	6,248	62	3,908	1,498	842
FY2008	5,188	51	3,538	1,099	552
FY2009	6,341	63	4,200	1,233	908

List of Companies Reporting for FY2009
(71 companies)

Category	Companies	Category	Companies
Space systems and their equipments (43 companies)	IHI Corporation	Material· Chemicals (6 companies)	Sakura Rubber Co.,LTD
	IHI Aerospace Co., Ltd.		Sumitomo Metal Industries,Ltd
	Eagle Industry Co., Ltd.		NOF Corporation
	Advanced Engineering Services Co., Ltd.		Furukawa-Sky Aluminum Corp.
	NEC Toshiba Space Systems , Ltd		Mitsubishi Cable Industries Ltd.
	Oki Electric Industry Co., Ltd.		The Yokohama Rubber Co., Ltd.
	Kawasaki Heavy Industries, Ltd.	Trading company (7 companies)	ITOCHU Corporation
	Galaxy-express Co.,Ltd.		Sumitomo Corporation
	Koito Manufacturing Co., Ltd.		Sojitz Aerospace Corporation
	GS Yuasa Corporation Ltd.		Nippon Aircraft Supply Co., Ltd.
	Shimadzu Corporation		Marubun Corporation
	Sharp Corporation		Marubeni Aerospace Corporation
	JAMCO Corporation		Mitsubishi Corporation
	Jupiter Corporation	Information services· Software ·Research (7 companies)	Space Engineering Development Co., Ltd.
	Showa Aircraft Industry Co.,LTD		GSP Japan, Inc.
	Sinfonia Technology Co., LTD.		Sorun Corporation
	Sumitomo Heavy Industries, Ltd.		Daiko Denshi Tsushin, Ltd.
	Sumitomo Precision Products Co.,Ltd		Chiyoda Advanced Solutions Corporation
	Sumitomo Electric Industries, Ltd.		Mitsubishi Space Software Co., Ltd.
	Seiryu Engineering Co.,Ltd		Remote Sensing Technology Center of Japan
	Tamagawa Seiki Co.,Ltd	Construction (3 companies)	Kyushu Electrical Construction Co., Ltd.
	Churyo Engineering Co.,Ltd		Cosmotec Co., Ltd.
	Toyo Networks & System Integration Co.,Ltd.		Shimizu Corporation
	Toyo Radio Systems Co.,Ltd.	Space utilization and Operation (5 companies)	MCC Corporation
	NAC Image Technology Incorporated		Japan Space Imaging Corporation
	Nippon Avionics Co.,Ltd		Pasco Corporation
	Japan Aviation Electronics Industry, Ltd.		Hitachi Software Engineering Co., Ltd.
	NEC Corporation		Japan Manned Space Systems Corporation
	NGK Spark Plug Co.,Ltd.		
	High-Reliability Engineering & Components Corporation		
	Hitachi Ltd.		
	Fuji Heavy Industries, Ltd		
	Fujitsu Limited		
	Fujiwara Co., Ltd.		
	Furuno Electric Co., Ltd.		
	Hoden Seimitsu Kako Kenkyusho Co.,Ltd.		
	Mitsubishi Heavy Industries, Ltd		
	Mitsubishi Electric Corporation		
	Mitsubishi Electric Tokki Systems Corporation		
	Mitsubishi Precision Co., Ltd.		
	Meisei Electric Co., Ltd		
	Yokogawa Electric Corporation		
	Yokogawa Denshikiki Co., Ltd.		