

# **HAMAMATSU**

**Hamamatsu Second Quarter Report (Summary)**

**Fiscal Year ending September 30, 2017**

**May 2017**

**Hamamatsu Photonics K.K.**

**Tokyo Stock Exchange: 6965**

**[www.hamamatsu.com](http://www.hamamatsu.com)**

## Notes

- This material is not intended to be a solicitation to buy or sell any securities of Hamamatsu Photonics K.K.
- The information contained in this material is based on data available as of making it. No guarantees, promises are made as to its accuracy or completeness.

# Semi-Annual Consolidated Performance Financial Highlights

in million yen

## Fiscal Years ending September 30, 2017

	FY 2016			FY 2017				
	1st Half	2nd Half	Year	1st Half	compared with prev. year	2nd Half (Plan)	Year (Plan)	compared with prev. year
Net Sales	62,843	59,009	121,852	64,953	103.4%	62,546	127,500	104.6%
Operating Income	11,101	9,442	20,544	11,161	100.5%	10,238	21,400	104.2%
Ordinary Income	11,189	8,861	20,050	11,978	107.1%	10,521	22,500	112.2%
Net Income	7,882	6,537	14,419	8,917	113.1%	7,382	16,300	113.0%
Net Income per share (yen)	49.02	41.21	90.23	56.69	115.6%	46.92	103.61	114.8%
Dividends (yen)	17	17	34	17	-	17	34	-
Exchange Rates	actual rate			actual rate		assumption rate		
1 US dollar(yen)	118.39	-	111.77	111.51	-	-	110.00	-
1 euro(yen)	130.05	-	124.02	119.45	-	-	115.00	-

rounded off to the nearest millions

# Consolidated Income Statements

in million yen

	FY2015		FY2016				FY2017 Proj.			
	Year	%	1st Half	2nd Half	Year	%	1st Half	2nd Half Plan	Year Plan	%
Net Sales	120,691	100.0	62,843	59,009	121,852	100.0	64,953	62,546	127,500	100.0
Cost of Sales	57,582	47.7	30,967	29,839	60,807	49.9	32,915	30,884	63,800	50.0
Gross Profit	63,109	52.3	31,875	29,169	61,044	50.1	32,038	31,661	63,700	50.0
Selling, G & A Expenses	27,897	23.1	14,911	13,715	28,627	23.5	15,052	14,847	29,900	23.5
R & D Expense	11,615	9.6	5,862	6,010	11,873	9.7	5,824	6,575	12,400	9.7
Operating Profit	23,596	19.6	11,101	9,442	20,544	16.9	11,161	10,238	21,400	16.8
Non-Operating Income	1,287	1.1	430	391	821	0.7	943	356	1,300	1.0
Non-Operating Expense	224	0.2	341	973	1,314	0.3	125	74	200	0.2
Ordinary Income	24,658	20.4	11,189	8,861	20,050	16.5	11,978	10,521	22,500	17.6
Extraordinary Income	706	0.6	153	659	813	0.7	11	-11	0	-
Extraordinary Expense	691	0.6	89	-89	691	0.6	35	364	400	0
Pre-Tax Income	24,672	20.4	11,252	8,827	20,080	16.5	11,954	10,145	22,100	17.3
Income taxes etc.	8,074	6.7	3,370	2,290	5,660	4.6	3,037	2,762	5,800	4.5
Net Income	16,598	13.8	7,882	6,537	14,419	11.8	8,917	7,382	16,300	12.8

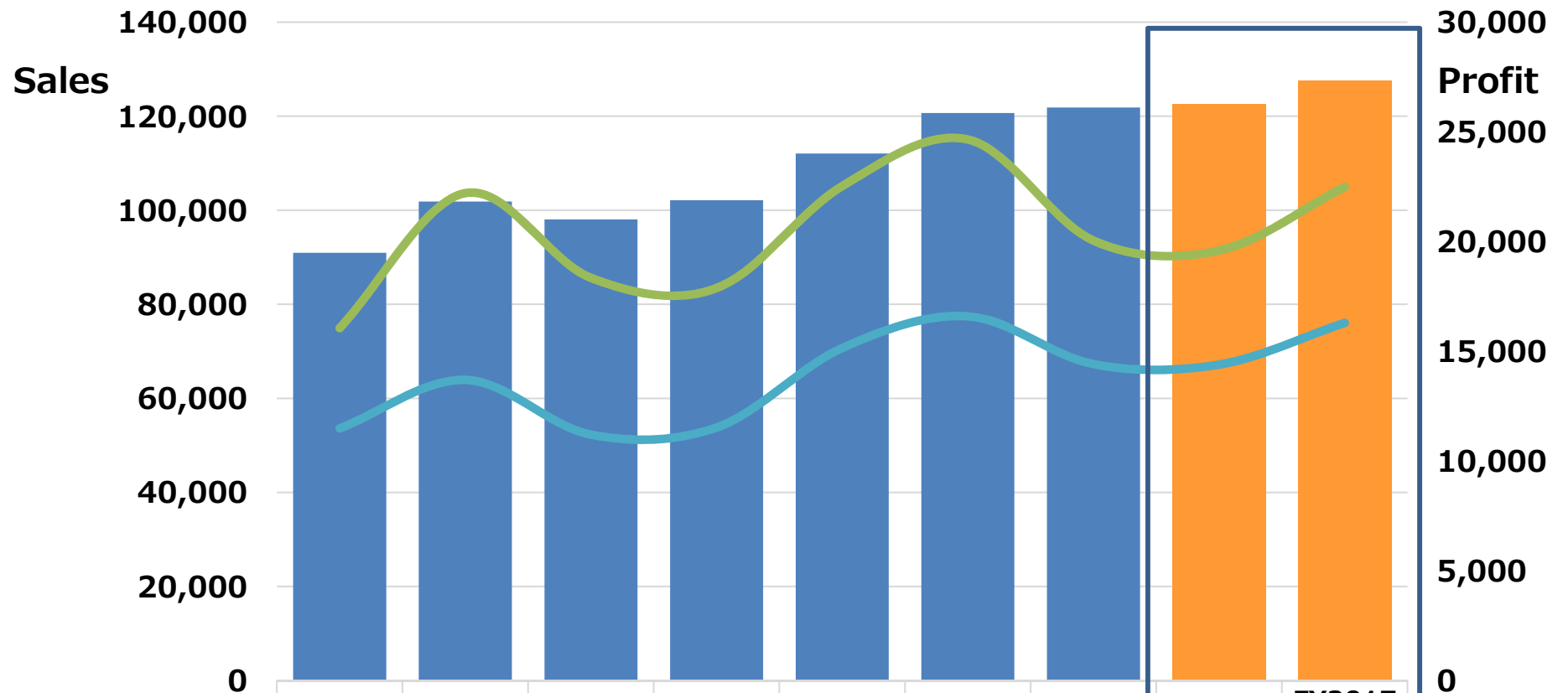
\* rounded off to the nearest million yen

# Sales & Profit

(Consolidated)

Fiscal Years ending September 30

in million yen

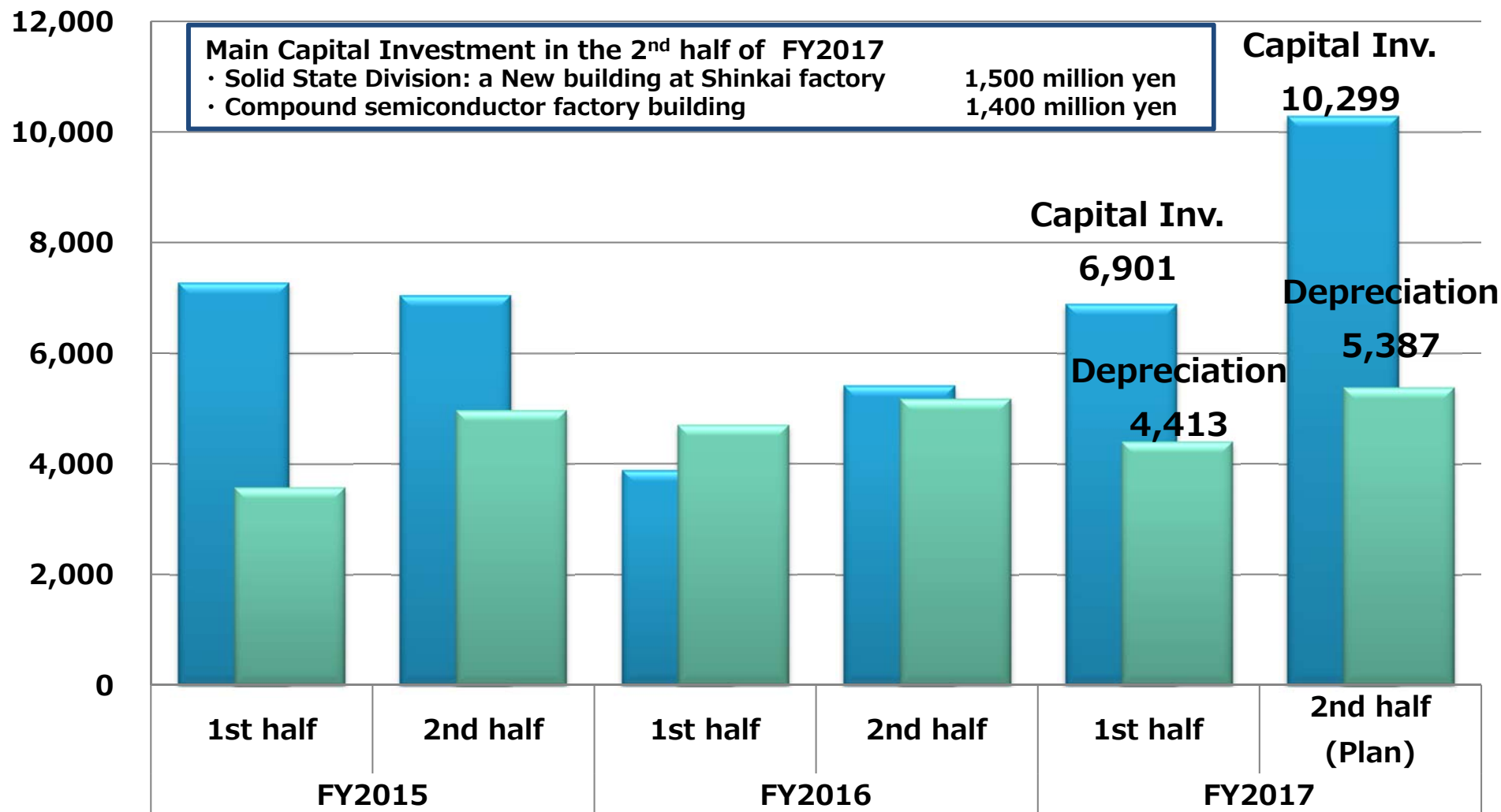


	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017 (Original plan)	FY2017 (Corrective plan)
Net Sales(Left)	90,959	101,858	98,067	102,156	112,092	120,691	121,852	122,500	127,500
Ordinary Income(Right)	16,059	22,216	18,350	17,883	22,531	24,658	20,050	19,600	22,500
Net Incom(Right)	11,491	13,702	11,206	11,529	15,155	16,598	14,419	14,400	16,300

# Capital Investment (payment based) & Depreciation

(Consolidated) Fiscal Years ending September 30

in million yen



**Main Capital Investment in the 2<sup>nd</sup> half of FY2017**  
 • Solid State Division: a New building at Shinkai factory 1,500 million yen  
 • Compound semiconductor factory building 1,400 million yen

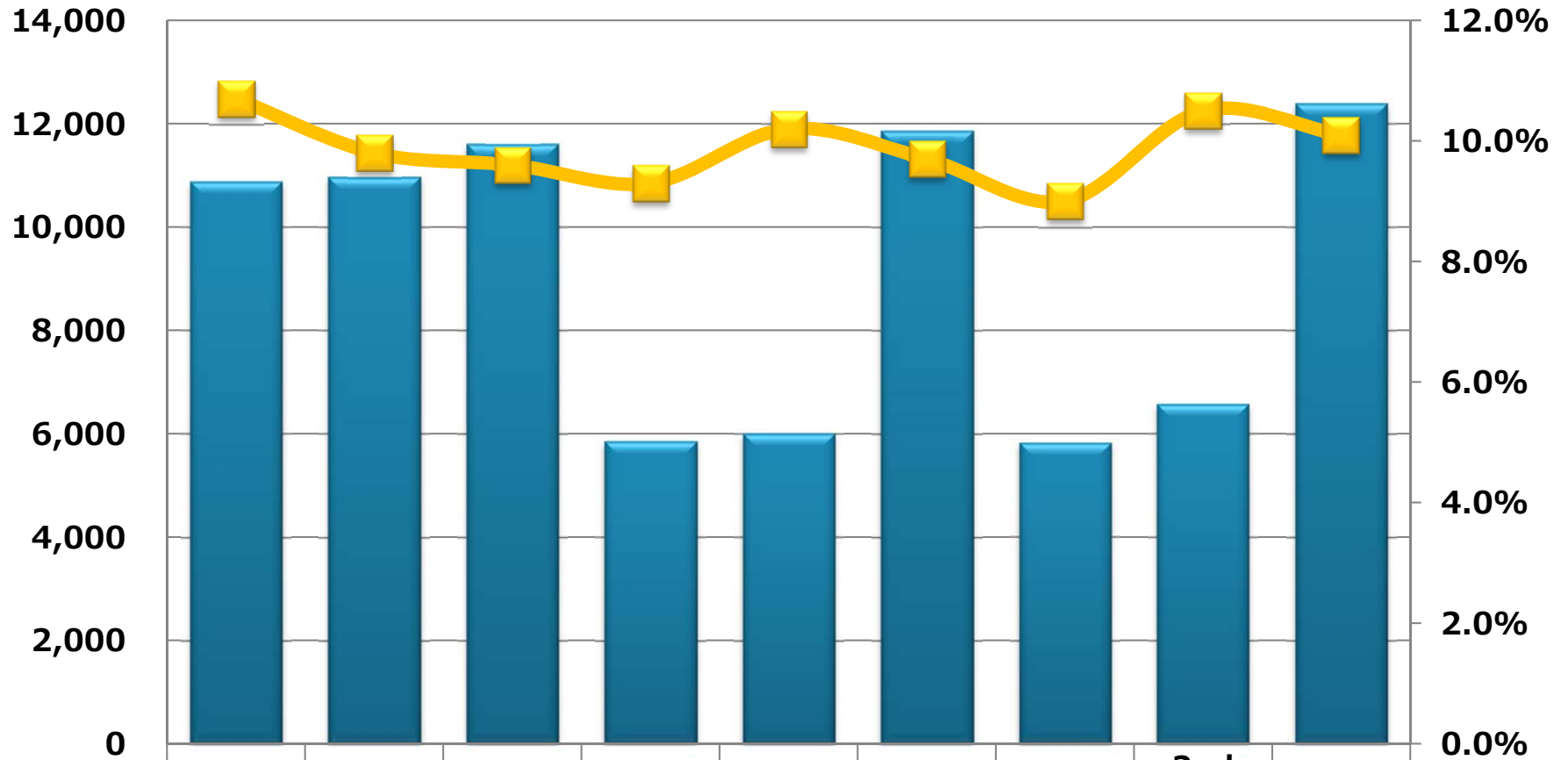
■ Capital Inv.	7,283	7,054	3,888	5,426	6,901	10,299
■ Depreciation	3,585	4,976	4,704	5,183	4,413	5,387

# R & D Expense

(Consolidated)

Fiscal Years ending September 30

in million yen



	Year	Year	Year	1st half	2nd half	Year	1st half	2nd half (Plan)	Year (Plan)
	FY2013	FY2014	FY2015		FY2016			FY2017	
R & D	10,885	10,977	11,615	5,862	6,010	11,872	5,824	6,575	12,399
R&D to Sales ratio	10.7%	9.8%	9.6%	9.3%	10.2%	9.7%	9.0%	10.5%	10.1%

# Sales by Region

(Consolidated) Fiscal Years ending September 30

in million yen

Region	FY2016				FY2017		
	1st Half	2nd Half	Year	Share (Year)	1st Half	Inc./Dec.	Share
Japan	19,163	17,095	36,258	29.8%	19,677	+2.7%	30.3%
North America	17,379	15,325	32,704	26.8%	16,817	-3.2%	25.9%
Europe	14,944	15,194	30,133	24.7%	15,766	+5.5%	24.3%
Asia and China	11,217	11,271	22,489	18.5%	12,555	+11.9%	19.3%
Other	140	121	261	0.2%	136	-2.2%	0.2%
<b>Total</b>	<b>62,843</b>	<b>59,009</b>	<b>121,852</b>	<b>100.0%</b>	<b>64,953</b>	<b>+3.4%</b>	<b>100.0%</b>

## Major countries on each region

- North America: United States of America
- Europe: Germany, France, U.K.
- Asia and China: Israel, India, China, South Korea, Taiwan
- Other: Australia

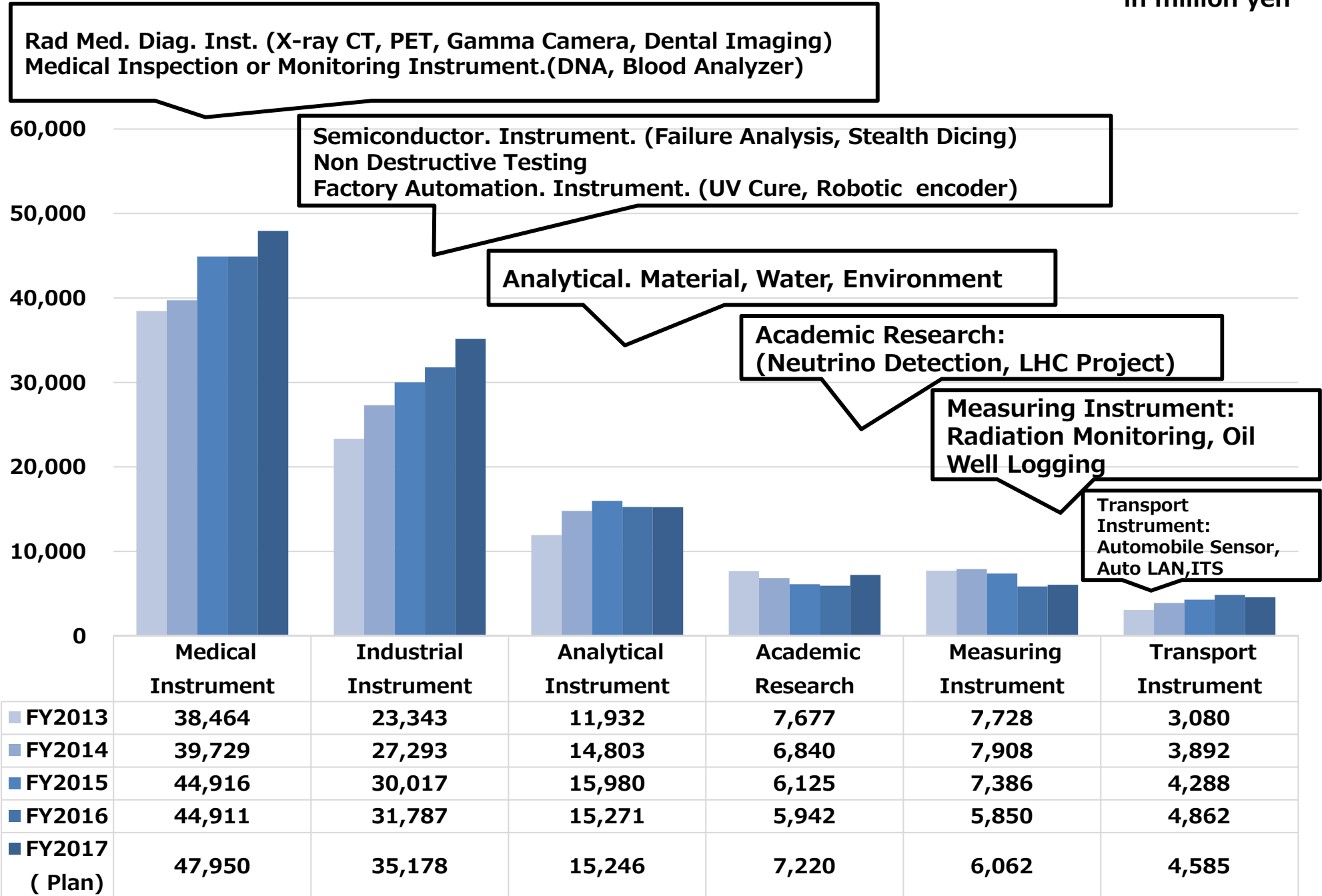


(Consolidated)

# Sales by Industry & Application

Fiscal Years ending September 30

in million yen



# in million yen

# Consolidated Sales by Industry and Application

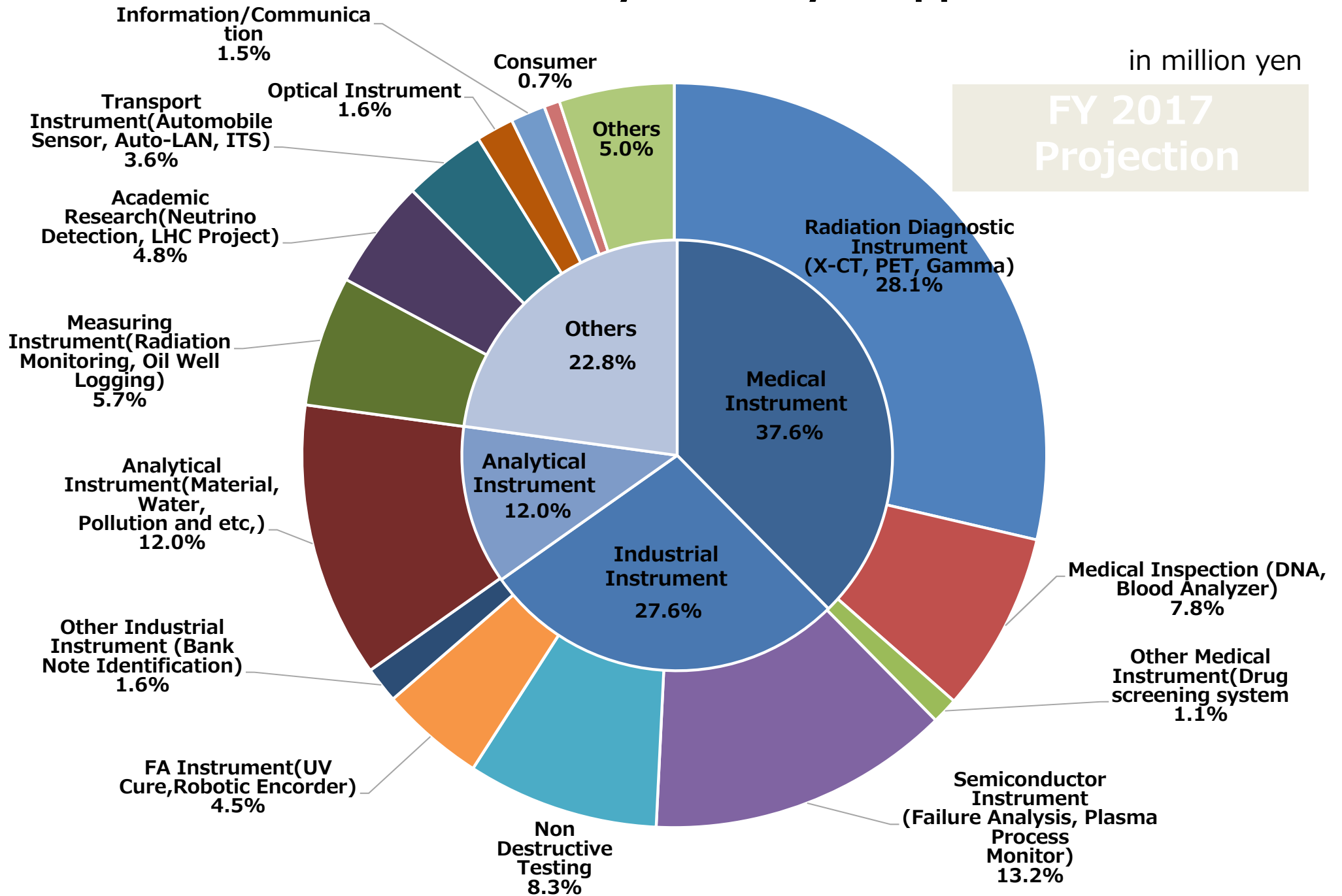
Industry / Application		FY2015				FY2016				FY2017 proj.			
		Mar-15	Sep-15			Mar-16	Sep-16			Mar-17	Sep-17		
		1st Half	2nd Half	Year	%	1st Half	2nd Half	Year	%	1st Half	2nd Half Plan	Year Plan	%
Medical Instrument	Rad Med. Diag. Inst. (X-CT, PET, Dental)	17,687	16,184	33,871	28.1	18,094	17,561	35,656	29.3	19,133	17,391	36,524	28.6
	Med Inspection or Monit. Inst. (DNA, Blood Analyzer)	4,924	4,470	9,394	7.8	4,400	4,185	8,585	7.0	4,838	5,137	9,975	7.8
	Other Med. Inst.	841	810	1,651	1.4	776	668	1,445	1.2	670	780	1,450	1.1
	Sub Total	23,452	21,464	44,916	37.2	23,272	22,414	45,686	37.5	24,641	23,309	47,950	37.6
Industrial Instrument	Semicon. Inst. (Failure Analysis, Stealth Dicing)	7,365	7,079	14,444	12.0	7,724	7,745	15,470	12.7	8,176	8,606	16,782	13.2
	Non Destructive Testing	4,377	4,456	8,833	7.3	4,923	5,115	10,038	8.2	5,350	5,251	10,601	8.3
	Factory Auto. Inst. (UV Cure, Rotary Encoder)	2,371	2,643	5,014	4.2	2,104	2,433	4,537	3.7	2,787	3,010	5,797	4.5
	Other Industrial Inst. (Bank Note Identification)	856	870	1,726	1.4	1,072	920	1,992	1.6	1,009	985	1,994	1.6
	Sub Total	14,969	15,048	30,017	24.9	15,824	16,213	32,037	26.3	17,324	17,854	35,178	27.6
Analytical	Material, Water, Environment & etc.	8,021	7,959	15,980	13.2	8,168	6,799	14,967	12.3	7,886	7,360	15,246	12.0
Academic Research	Neutrino/ Dark Matter Detection	3,840	2,285	6,125	5.1	3,576	2,451	6,027	4.9	3,850	3,370	7,220	5.7
Measuring Instrument	Radiation Monitoring, Oil Well Logging	3,989	3,397	7,386	6.1	3,025	2,602	5,627	4.6	3,174	2,888	6,062	4.8
Transport Instrument	Automobile Sensor, Auto-LAN, ITS	2,167	2,121	4,288	3.6	2,513	2,448	4,961	4.1	2,467	2,118	4,585	3.6
Information/Communication	Optical Communication, printer & etc.	873	750	1,623	1.3	829	1,117	2,238	1.8	1,082	1,001	2,083	1.6
Optical/Photographic Inst.	Laser Scan Microscope, Auto Focus	1,162	1,029	2,191	1.8	1,121	955	1,784	1.5	1,004	918	1,922	1.5
Consumer Instrument	Audio Link, Auto-dimming	293	245	538	0.4	264	328	593	0.5	425	447	872	0.7
Others/Not Classified		3,464	4,163	7,627	6.3	4,247	3,683	7,931	6.5	3,093	3,278	6,371	5.0
TOTAL		62,229	58,462	120,691	100.0	62,843	59,009	121,852	100.0	64,953	62,054	121,900	100.0
Exchange Rate		actual		actual		actual		Actual		Actual		Assumed	
US\$ in Yen		116.73	-	119.32		118.39	-	111.77		111.51	-	110.00	
Euro € in Yen		138.47	-	136.78		130.05	-	124.02		119.45	-	115.00	

\* rounded off to the nearest million yen

# Consolidated Sales by Industry & Application

in million yen

FY 2017  
Projection



# SALES BY THE SEGMENT

(Consolidated)

Including intersegment sales

in million yen

	FY2015	FY2016			FY2017		
	Year	1st Half	2nd Half	Year	1st Half	2nd Half (Plan)	Year (Plan)
Electron Tube	49,934	24,822	22,067	46,890	25,031	24,568	49,600
Opto-semiconductor	52,886	27,852	28,579	56,432	30,324	29,175	59,500
Imaging and Measurement Instruments	16,211	8,993	7,372	16,366	8,834	8,065	16,900
Other (Including Laser and except internal sales)	1,658	1,174	989	2,163	763	736	1,500
<b>Total</b>	<b>120,691</b>	<b>62,843</b>	<b>59,009</b>	<b>121,852</b>	<b>64,953</b>	<b>62,546</b>	<b>127,500</b>

rounded off to the nearest millions

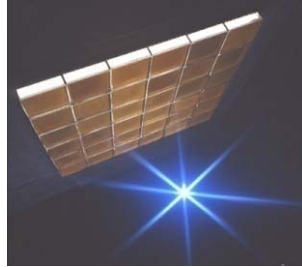
# Electron Tube

Photosensitive Electron Tubes,  
Light Sources & Image devices

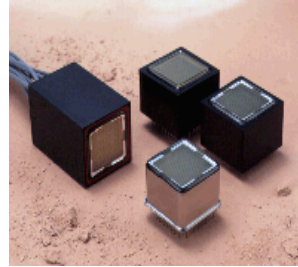
**PMT(photomultiplier tubes): 90% share of the world market.**



**PMT**



**Flat Panel PMT**



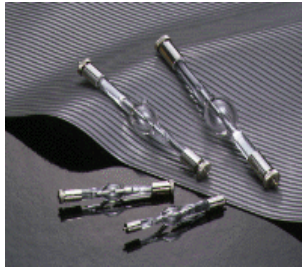
**Metal Package PMT**



**Near Infrared PMT**



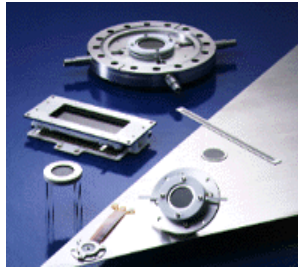
**UV power meter**



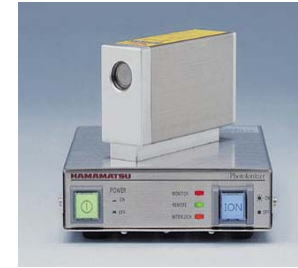
**Lamp Sources**



**UV Spot Light Source**



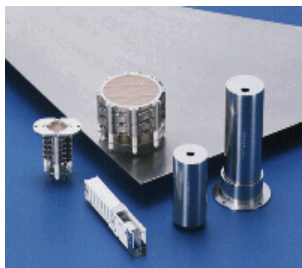
**MCP**



**Photoionizer**



**Glass Products**



**Electron Multipliers**



**HPD**



**Image Intensifiers**



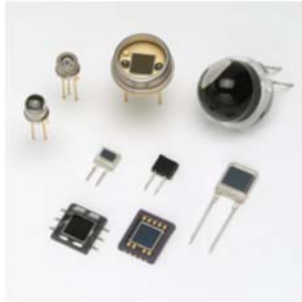
**Scintillators**



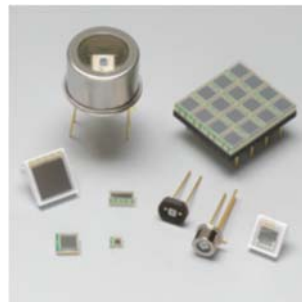
**EB-CCD**

# Opto-semiconductor

## Solid State Division



Si Photodiodes



APD · MPPC

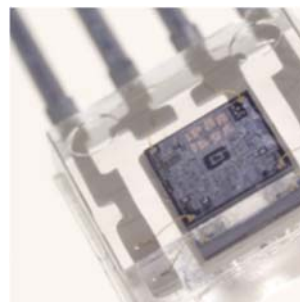
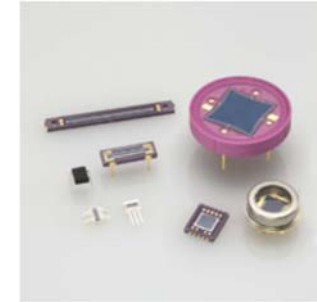


Photo IC



Image Sensors



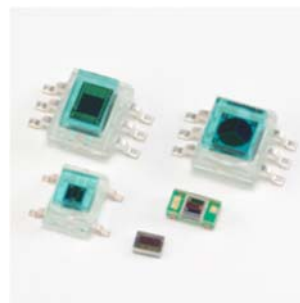
PSD



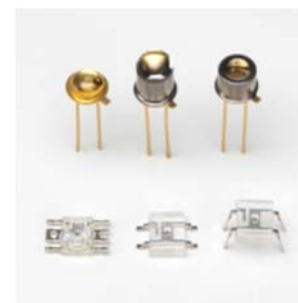
Infrared Detectors



Visible sensor



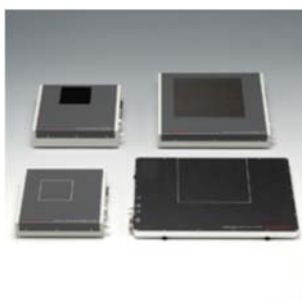
Color sensors



LED



Optical Communication devices



X-ray Flat Panel Sensors



Mini-spectroscope



Opt Semi-con. modules



Automotive Devices



LCOS-SLM

# Imaging & Measurement Instruments

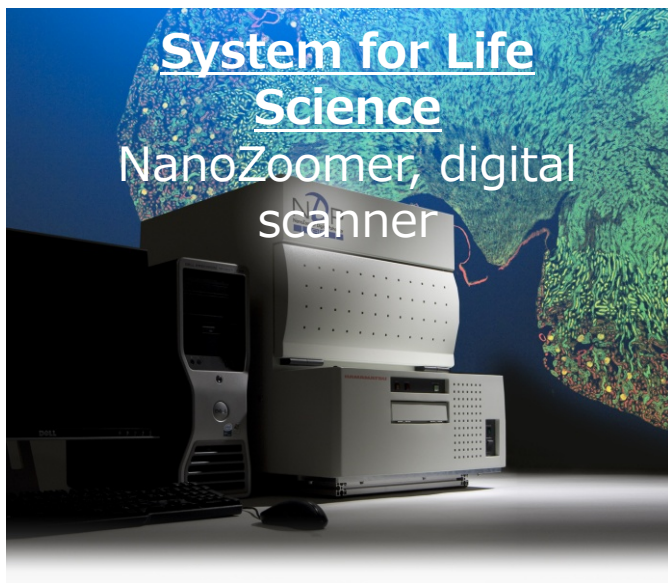
## Systems Division



**Drug Screening System**



**Semiconductor Failure  
Analysis Instrument**



# Experiments for High-Energy Physics Using Photomultiplier Tubes(PMT)

	Name of Experiment	Purpose of Experiment	Place of Exp.	start year of production (plan)	Number of Detectors
Underground	Hyper -Kamiokande	Neutrino, Proton Decay	Japan	2018	82,000 14,000
	LZ-7/DUSEL	Dark Matter	USA	2016	460/180
	JUNO (Daya Bay II)	Neutrino	China	2016	5,000
Deep-sea	KM3NeT	Neutrino	Europe	2014	175,000
	Baikal-GVD	Neutrino	Russia	2015	10,000
Ice experiment	IceCube/PINGU	Neutrino	Antarctic	2018	60,000 ~ 78,000
	IceCube/HEX	Neutrino	Antarctic	2019	282,000 ~ 300,000
Ground-surface	CTA	Gamma-Ray Space Telescope	Southern and Northern Hemisphere	2015	96,000
Space	K-EUSO	Extreme energy cosmic ray particle	ISS	2018	2,000
Accelerator experiment	RICH/LHC-B/CERN	Collision experiments(Higgs)	Europe	2016	3,550
	RICH/CBM/GSI	Fixed target experiment	Europe	2015	1,100



## **Solid State Division (Opto-semiconductor Segment)**

# **New building at Shingai Factory**

- **Operations are scheduled to begin in May 2017**
- **Building : Steel construction, 4<sup>th</sup> floor(25m),  
Building area : 2,659m<sup>2</sup>, Floor area : 9,342m<sup>2</sup>**
- **Operation : Dicing,  
Assembly, Inspection**
- **Product : Chip-on-board,  
X-ray nondestructive,  
MPPC for medical,  
Automotive etc**
- **Capacity : In Shingai  
from 4 million / month  
to 10 million / month**



## Asia

HAMAMATSU PHOTONICS K.K.

Headquarters

HAMAMATSU PHOTONICS (CHINA) Co., Ltd.

Head Office / Shanghai Branch

BEIJING HAMAMATSU PHOTON TECHNIQUES INC.

Head Office / Langfang Factory

HAMAMATSU PHOTONICS TAIWAN Co., Ltd.

Hsinchu Office / Kaohsiung Office

## America

HAMAMATSU CORPORATION

Main Office / California Office / Chicago Office

/ Boston Office

PHOTONICS MANAGEMENT CORP.

## Europe

HAMAMATSU PHOTONICS EUROPE GmbH

HAMAMATSU PHOTONICS DEUTSCHLAND GmbH

Main Office / Netherlands Office

/ Poland Office / Danish Office

HAMAMATSU PHOTONICS FRANCE S.A.R.L.

Main Office / Swiss Office / Belgian Office

/ Spanish Office

HAMAMATSU PHOTONICS NORDEN AB

Main Office / Russian Office

HAMAMATSU PHOTONICS ITALIA S.r.l.

Main Office / Rome Office

HAMAMATSU PHOTONICS UK Limited

Main Office / South African Office

