



# **HAMAMATSU**

## Hamamatsu Second Quarter Report (Summary)

Fiscal Year ending September 30, 2016



May 2016

Hamamatsu Photonics K.K.

Tokyo Stock Exchange: 6965

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

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## 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, 2016

	FY 2015			FY 2016				
	1st Half	2nd Half	Year	1st Half	compared with prev. year	2nd Half (Plan)	Year (Plan)	compared with prev. year
Net Sales	62,229	58,461	120,691	62,843	101.0%	59,056	121,900	101.0%
Operating Income	13,777	9,818	23,596	11,101	80.6%	9,298	20,400	86.5%
Ordinary Income	14,582	10,075	24,658	11,189	76.7%	9,510	20,700	84.0%
Net Income	9,861	6,737	16,598	7,882	79.9%	7,017	14,900	89.9%
Net Income per share (yen)	61.33	41.90	103.23	49.02	79.9%	43.65	92.67	89.8%
Dividends (yen)	15	19	34	17	+2	17	34	±0
Exchange Rates	actual rate			actual rate		assumption rate		
1 US dollar(yen)	116.73	-	119.32	118.39	-	110.00	-	-
1 euro(yen)	138.47	-	136.78	130.05	-	125.00	-	-

rounded off to the nearest millions

# Consolidated Income Statements

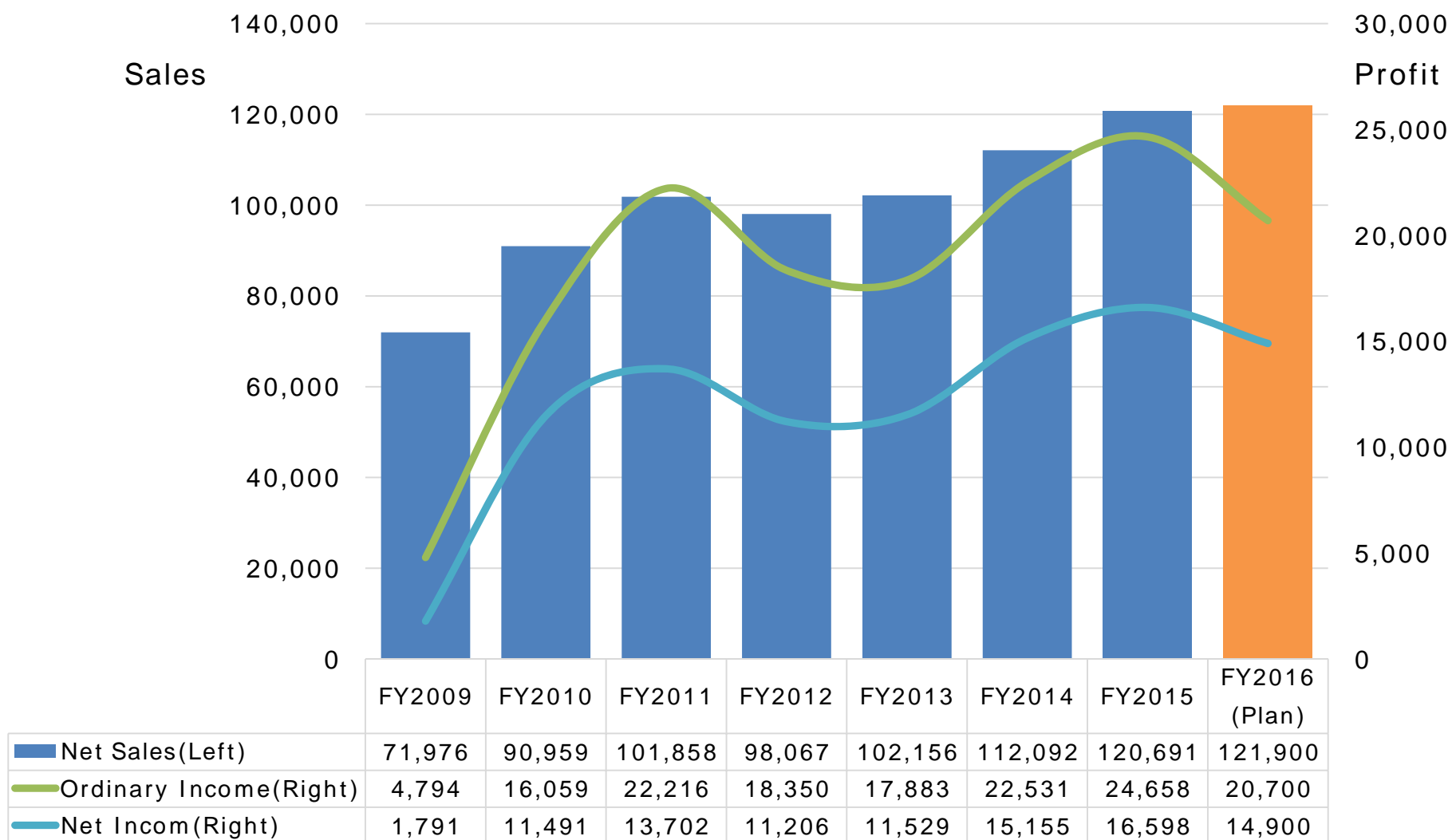
in million yen

	FY2014		FY2015				FY2016 Proj.			
	Year	%	1st Half	2nd Half	Year	%	1st Half	2nd Half Plan	Year Plan	%
Net Sales	112,092	100.0	62,229	58,461	120,691	100.0	62,843	59,056	121,900	100.0
Cost of Sales	53,451	47.7	29,196	28,385	57,582	47.7	30,967	29,432	60,400	49.5
Gross Profit	58,641	52.3	33,032	30,076	63,109	52.3	31,875	29,624	61,500	50.5
Selling, G & A Expenses	25,998	23.2	13,775	14,122	27,897	23.1	14,911	13,788	28,700	23.5
R & D Expense	10,977	9.8	5,479	6,136	11,615	9.6	5,862	6,537	12,400	10.2
Operating Profit	21,665	19.3	13,777	9,818	23,596	19.6	11,101	9,298	20,400	16.7
Non-Operating Income	1,074	1.0	918	368	1,287	1.1	430	269	700	0.6
Non-Operating Expense	208	0.2	113	111	224	0.2	341	58	400	0.3
Ordinary Income	22,531	20.1	14,582	10,075	24,658	20.4	11,189	9,510	20,700	17.0
Extraordinary Income	13	0.0	63	643	706	0.6	153	-153	-	-
Extraordinary Expense	82	0.1	49	642	691	0.6	89	-89	-	-
Pre-Tax Income	22,462	20.0	14,596	10,076	24,672	20.4	11,252	9,447	20,700	17.0
Income taxes etc.	7,306	6.5	4,734	3,339	8,074	6.7	3,370	2,029	5,800	4.8
Net Income	15,155	13.5	9,861	6,737	16,598	13.8	7,882	7,017	14,900	12.2

\* rounded off to the nearest million yen

# Sales & Profit

(Consolidated) Fiscal Years ending September 30 in million yen



# Capital Investment (payment based) & Depreciation

(Consolidated) Fiscal Years ending September 30

in million yen



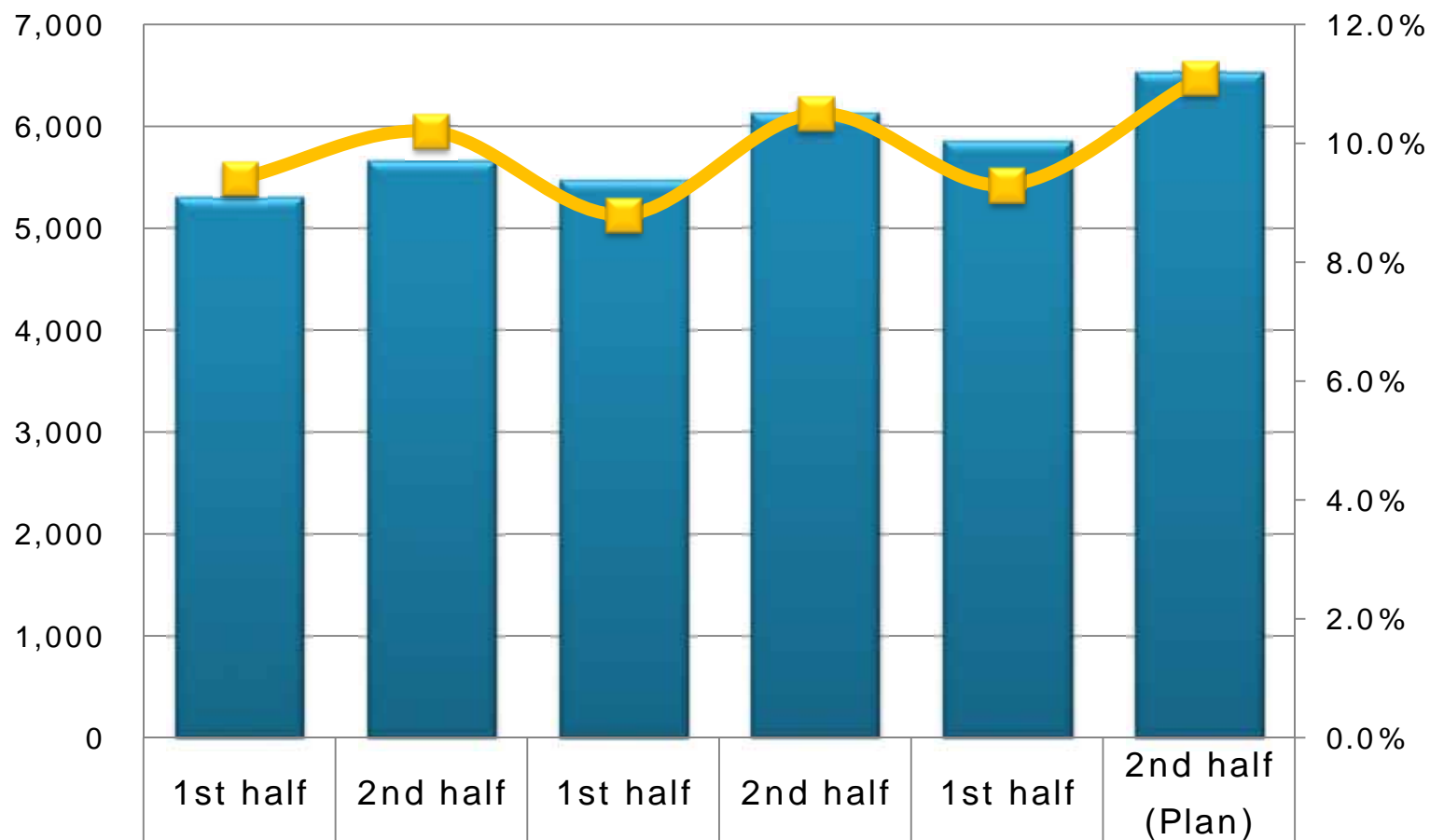
	FY2014		FY2015		FY2016	
	1st half	2nd half	1st half	2nd half	1st half	2nd half (Plan)
■ Capital Inv.	7,957	7,542	7,283	7,054	3,888	11,912
■ Depreciation	3,434	3,962	3,585	4,976	4,704	5,396

# R & D Expense

(Consolidated)

Fiscal Years ending September 30

in million yen



R & D	5,309	5,668	5,479	6,136	5,862	6,538
R&D to Sales ratio	9.4%	10.2%	8.8%	10.5%	9.3%	11.1%

# Sales by Region

(Consolidated) Fiscal Years ending September 30

in million yen

Region	FY2015			FY2016		
	1st Half	2nd Half	Year	1st Half	Inc./Dec.	Share
Japan	19,711	17,527	37,238	19,163	-2.8%	30.5%
North America	17,956	17,179	35,135	17,379	-3.2%	27.7%
Europe	15,175	14,428	29,603	14,944	-1.5%	23.8%
Asia and China	9,204	9,177	18,381	11,217	+21.9%	17.8%
Other	183	150	333	140	-23.8%	0.2%
Total	62,229	58,462	120,691	62,843	+1.0%	100.0%

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



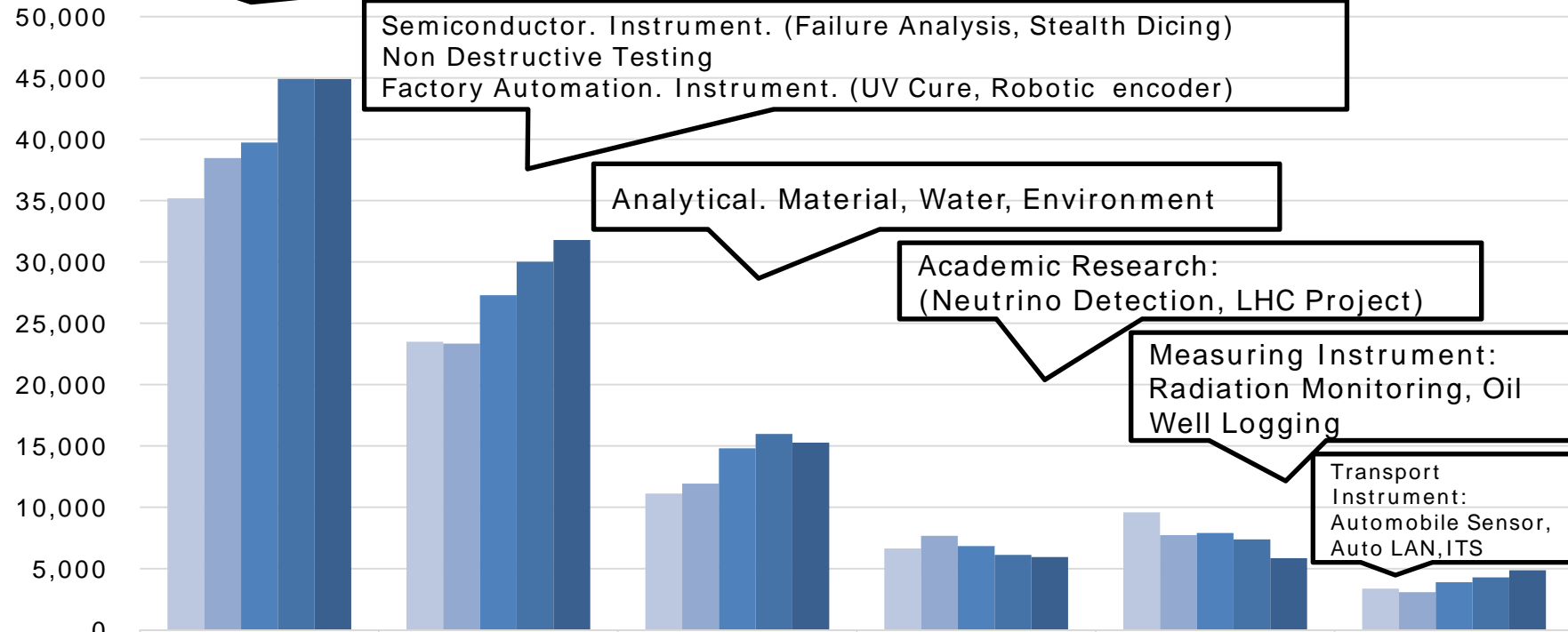
# Sales by Industry & Application

## Fiscal Years ending September 30

in million yen

(Consolidated)

Rad Med. Diag. Inst. (X-ray CT, PET, Gamma Camera, Dental Imaging)  
Medical Inspection or Monitoring Instrument.(DNA, Blood Analyzer)



	Medical Instrument	Industrial Instrument	Analytical Instrument	Academic Research	Measuring Instrument	Transport Instrument
FY2012	35,182	23,493	11,124	6,641	9,591	3,370
FY2013	38,464	23,343	11,932	7,677	7,728	3,080
FY2014	39,729	27,293	14,803	6,840	7,908	3,892
FY2015	44,916	30,017	15,980	6,125	7,386	4,288
FY2016 ( Plan)	44,911	31,787	15,271	5,942	5,850	4,862

# Consolidated Sales by Industry and Application

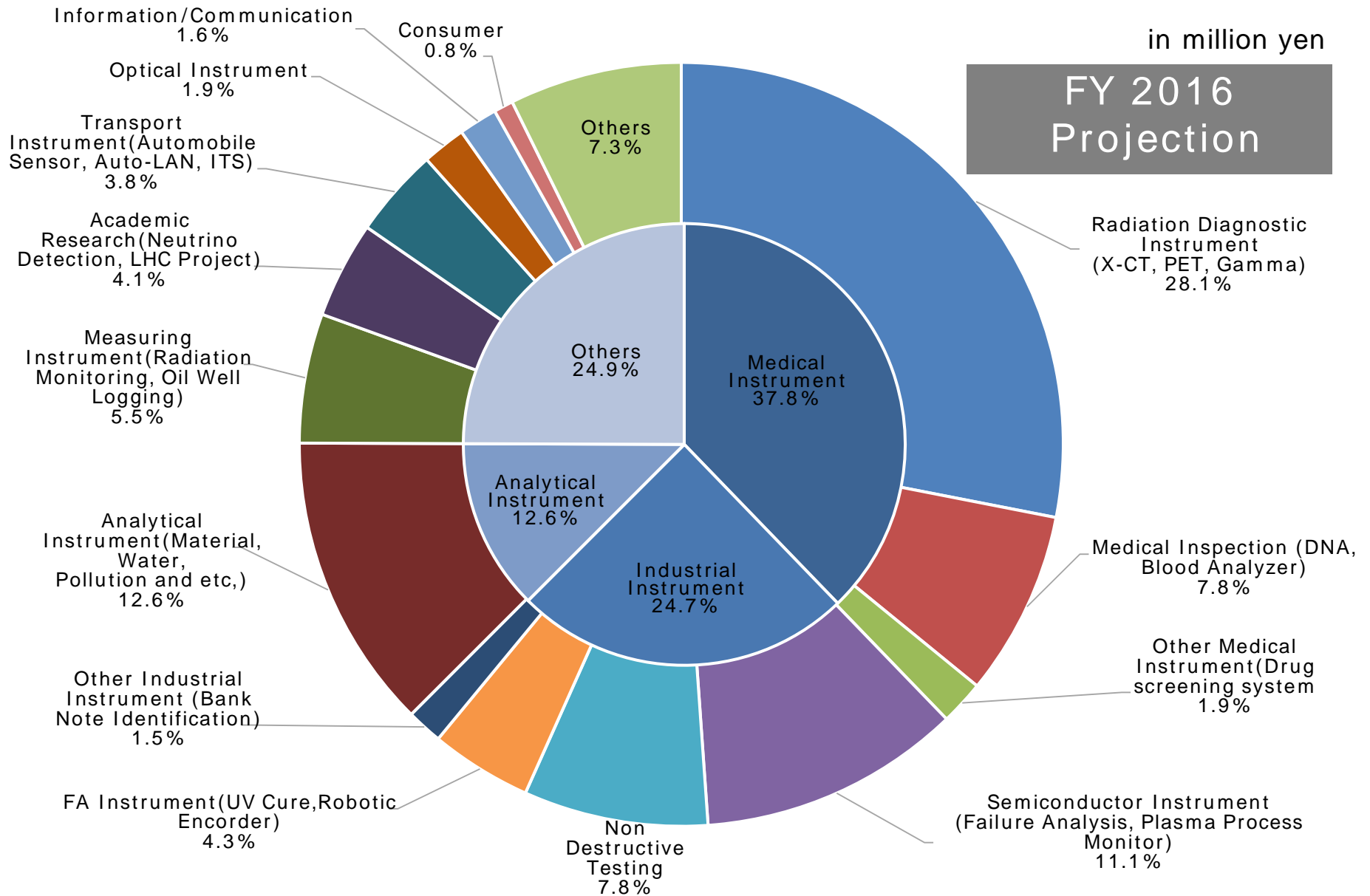
Industry / Application		FY2014				FY2015				FY2016 proj.			
		Mar-14	Sep-14			Mar-15	Sep-15			Mar-16	Sep-16		
		1st Half	2nd Half	Year	%	1st Half	2nd Half	Year	%	1st Half	2nd Half Plan	Year Plan	%
Medical Instrument	Rad Med. Diag. Inst. (X-CT, PET, Dental)	15,893	14,472	30,366	27.1	17,687	16,184	33,871	28.1	18,094	16,823	34,918	28.6
	Med Inspection or Monit. Inst. (DNA, Blood Analyzer)	3,744	3,916	7,660	6.8	4,924	4,470	9,394	7.8	4,400	4,220	8,621	7.1
	Other Med. Inst.	815	886	1,701	1.5	841	810	1,651	1.4	776	594	1,371	1.1
	Sub Total	20,452	19,276	39,729	35.4	23,452	21,464	44,916	37.2	23,272	21,638	44,910	36.8
Industrial Instrument	Semicon. Inst. (Failure Analysis, Stealth Dicing)	6,746	6,589	13,336	11.9	7,365	7,079	14,444	12.0	7,724	7,495	15,220	12.5
	Non Destructive Testing	3,842	3,905	7,748	6.9	4,377	4,456	8,833	7.3	4,923	5,135	10,058	8.3
	Factory Auto. Inst. (UV Cure, Rotary Encoder)	2,133	2,676	4,810	4.3	2,371	2,643	5,014	4.2	2,104	2,383	4,487	3.7
	Other Industrial Inst. (Bank Note Identification)	721	677	1,398	1.2	856	870	1,726	1.4	1,072	947	2,020	1.7
	Sub Total	13,443	13,849	27,293	24.3	14,969	15,048	30,017	24.9	15,824	15,962	31,786	26.1
Analytical	Material, Water, Environment & etc.	6,778	8,025	14,803	13.2	8,021	7,959	15,980	13.2	8,168	7,102	15,270	12.5
Academic Research	Neutrino/ Dark Matter Detection	4,142	2,698	6,840	6.1	3,840	2,285	6,125	5.1	3,576	2,364	5,941	4.9
Measuring Instrument	Radiation Monitoring, Oil Well Logging	3,998	3,910	7,908	7.1	3,989	3,397	7,386	6.1	3,025	2,824	5,849	4.8
Transport Instrument	Automobile Sensor, Auto-LAN, ITS	1,905	1,986	3,892	3.5	2,167	2,121	4,288	3.6	2,513	2,348	4,861	4.0
Information/Communication	Optical Communication, printer & etc.	1,107	1,109	2,217	2.0	873	750	1,623	1.3	829	922	1,752	1.4
Optical/Photographic Inst.	Laser Scan Microscope, Auto Focus	1,196	1,073	2,269	2.0	1,162	1,029	2,191	1.8	1,121	1,069	2,191	1.8
Consumer Instrument	Audio Link, Auto-dimming	273	317	591	0.5	293	245	538	0.4	264	373	637	0.5
Others/Not Classified		3,379	3,164	6,544	5.8	3,464	4,163	7,627	6.3	4,247	4,449	8,697	7.1
TOTAL		56,680	55,412	112,092	100.0	62,229	58,462	120,691	100.0	62,843	59,056	121,900	100.0
Exchange Rate		actual		actual		actual		actual		actual	assumed		
US\$ in Yen		101.53	-	102.29		116.73	-	119.32		118.39	110.00	-	
Euro € in Yen		138.62	-	138.76		138.47	-	136.78		130.05	125.00	-	

\* rounded off to the nearest million yen

# Consolidated Sales by Industry & Application

in million yen

**FY 2016  
Projection**



# SALES BY THE SEGMENT

(Consolidated)

Including intersegment sales

in million yen

	FY2014	FY2015		FY2016			
	Year	1st Half	2nd Half	Year	1st Half	2nd Half plan	Year plan
Electron Tube	46,871	25,884	24,049	49,934	24,822	22,177	47,000
Opto-semiconductor	49,862	27,271	25,615	52,886	27,852	27,997	55,850
Imaging and Measurement Instruments	14,065	8,291	7,920	16,211	8,993	8,206	17,200
Other (Including Laser and except internal sales)	1,293	781	877	1,658	1,174	675	1,850
<b>Total</b>	<b>112,092</b>	<b>62,229</b>	<b>58,461</b>	<b>120,691</b>	<b>62,843</b>	<b>59,056</b>	<b>121,900</b>

rounded off to the nearest millions

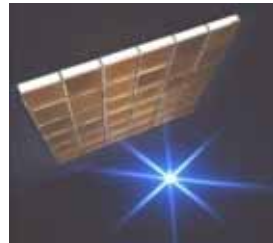
# Electron Tube Division

**HAMAMATSU**  
PHOTON IS OUR BUSINESS  
Photosensitive Electron Tubes,  
Light Sources & Image devices

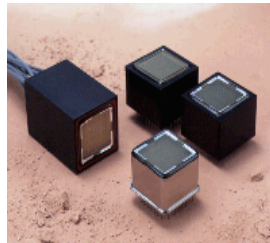
**PMT(photomultiplier tubes): 90% share of the world market.**



PMT



Flat Panel PMT



Metal Package PMT



Near Infrared PMT



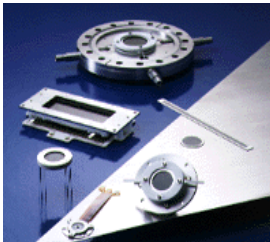
UV power meter



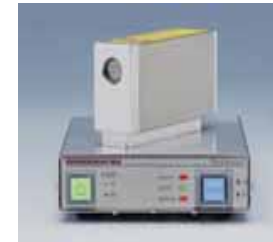
Lamp Sources



UV Spot Light Source



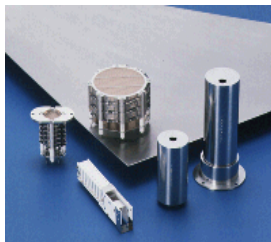
MCP



Photoionizer



Glass Products



Electron Multipliers



HPD

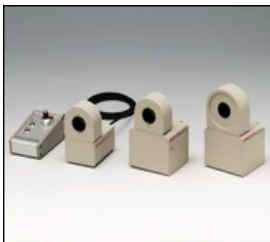


Image Intensifiers



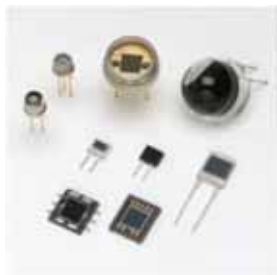
Scintillators



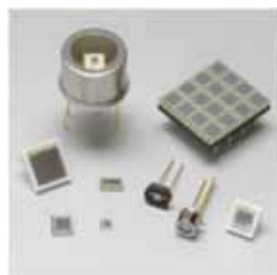
EB-CCD

# Opto-semiconductors

## Solid State Division



Si Photodiodes



APD • MPPC

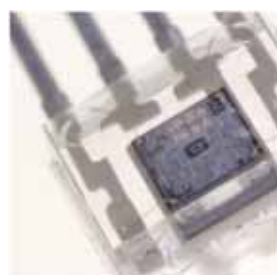


Photo IC



Image Sensors



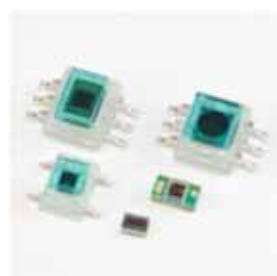
PSD



Infrared Detectors



Visible sensor



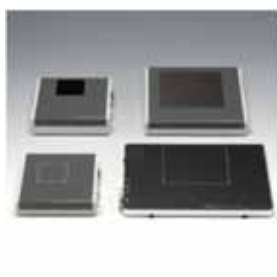
Color sensors



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 )	Neutrino	China	2017	5,000
Deep-sea	KM3NeT	Neutrino	Europe	2014	210,000
	Baikal-GVD	Neutrino	Russia	2015	10,000
Ice experiment	IceCube/PINGU	Neutrino	Antarctic	2018	5,000
Ground-surface	CTA	Gamma-Ray Space Telescope	Southern and Northern Hemisphere	2015	96,000
Space	JEM-EUSO	Extreme energy cosmic ray particle	ISS	2017	7,000
Accelerator experiment	RICH/LHC-B/CERN	Collision experiments(Higgs)	Europe	2015	3,500
	RICH/CBM/GSI	Fixed target experiment	Europe	2015	1,100



# Solid State Division (Opto-semiconductor Segment)

## MEMS, Micro Electromechanical systems ( MPPC module ) for medical devices

Sales for nuclear medicine applications(X-Ray CT, PET)

MPPC :SiPM (Silicon Photomultipliers)

## Smart sensor

( Photo ICs )

## IoT,M2M solutions

IoT: Internet of Things

M2M : Machine to Machine system

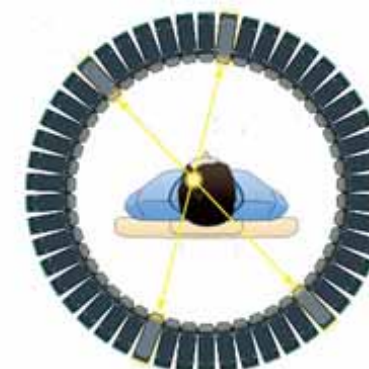
## Health care applications

## Infrared sensor

( Compound semiconductor )

Environmental applications  
to measurement

Position information  
of cancer



Array Type  
MPPC module

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## 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