



# **HAMAMATSU**

P H O T O N I S O U R B U S I N E S S

## **Hamamatsu financial reporting**

**Fiscal Year ended September 30, 2017**



**November 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.

# Annual Consolidated Performance

in million yen

FY: October 1-September 30

	FY2016	FY2017			FY2018	
	Year	Revised Forecast 2017/5/8	Year	compared with prev. year	Year Plan	compared with prev. year
Net Sales	121,852	127,500	130,495	+7.1 %	136,300	+4.4%
Gross Profit (%)	61,044 (50.1%)	63,700 (50.0%)	64,825 (49.7%)	+6.2 %	68,300 (50.1%)	+5.4%
Operating Income	20,544	21,400	22,849	+11.2 %	23,600	+3.3%
Ordinary Income	20,050	22,500	24,037	+19.9 %	23,900	-0.6%
Net Income	14,419	16,300	17,777	+23.3 %	17,500	-1.6%
* Net Income per share (yen)	90.23	103.61	113.00	+25.2%	111.24	-1.6%
ROE	8.3%	9.2%	10.0%		9.0%	
Dividends (yen)	34	-	34	-	34	-
Exchange rate	<u>actual rates</u>	<u>actual rates</u>			<u>assumption rates</u>	
1 US dollar(yen)	111.77 yen	111.27 yen			110.00 yen	
1 euro(yen)	124.02 yen	122.91 yen			125.00 yen	
1 RMB(yen)	18.09 yen	16.03 yen			16.00 yen	

\*numbers are rounded off to million yen

# Consolidated Income Statements

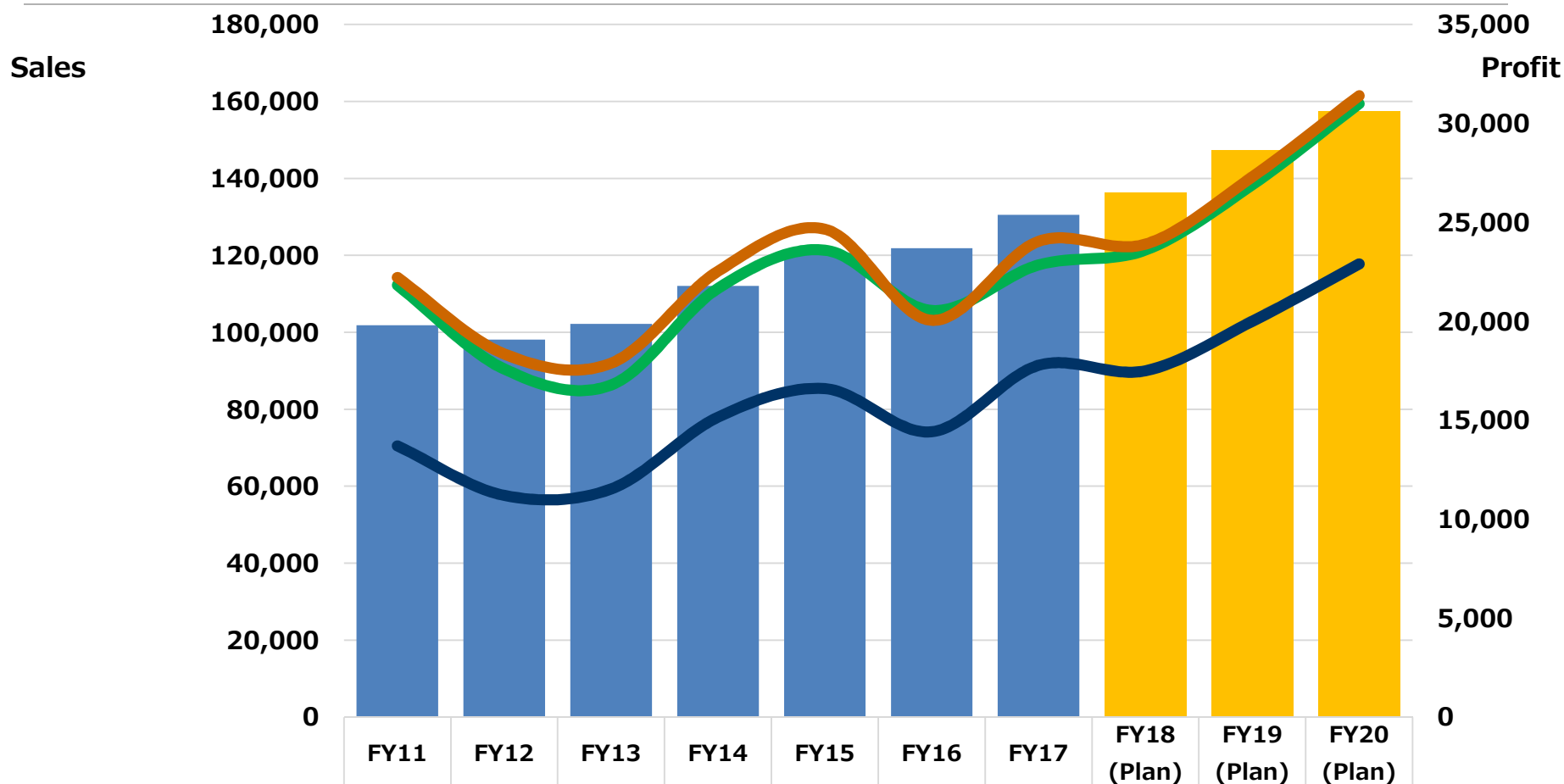
in million yen

	FY2016		FY2017				FY2018(Plan)				FY2019(Plan)		FY2020(Plan)	
	Year	%	1st Half	2nd Half	Year	%	1st Half	2nd Half	Year	%	Year	%	Year	%
Net Sales	121,852	100.0	64,953	65,542	130,495	100.0	67,700	68,600	136,300	100.0	147,400	100.0	157,400	100.0
Cost of Sales	60,807	49.9	32,915	32,755	65,670	50.3	33,800	34,200	68,000	49.9	74,900	50.8	79,700	50.6
Gross Profit	61,044	50.1	32,038	32,787	64,825	49.7	33,900	34,400	68,300	50.1	72,500	49.2	77,700	49.4
Selling, G & A Expenses	28,627	23.5	15,052	15,146	30,199	23.1	15,600	15,100	30,700	22.5	32,100	21.8	32,800	20.8
R & D Expense	11,873	9.7	5,824	5,951	11,776	9.0	6,700	7,300	14,000	10.3	13,500	9.2	13,900	8.8
Operating Income	20,544	16.9	11,161	11,688	22,849	17.5	11,600	12,000	23,600	17.3	26,900	18.2	31,000	19.7
Non-Operating Income	821	0.7	943	464	1,407	1.1	300	300	600	0.4	600	0.4	600	0.4
Non-Operating Expense	1,314	1.1	125	93	219	0.2	200	100	300	0.2	200	0.1	200	0.1
Ordinary Income	20,050	16.5	11,978	12,059	24,037	18.4	11,700	12,200	23,900	17.5	27,300	18.5	31,400	19.9
Extraordinary Income	813	0.7	11	223	234	0.2	0	0	0	0.0	0	0.0	0	0.0
Extraordinary Expense	783	0.6	35	666	701	0.5	0	0	0	0.0	0	0.0	100	0.1
Pre-Tax Income	20,080	16.5	11,954	11,615	23,570	18.1	11,700	12,200	23,900	17.5	27,300	18.5	31,300	19.9
Income taxes etc.	5,660	4.6	3,037	2,755	5,793	4.4	3,200	3,200	6,400	4.7	7,300	5.0	8,400	5.4
Net Income	14,419	11.8	8,917	8,859	17,777	13.6	8,500	9,000	17,500	12.8	20,000	13.6	22,900	14.5

\*numbers are rounded off to million yen

# Sales & Profit (Consolidated)

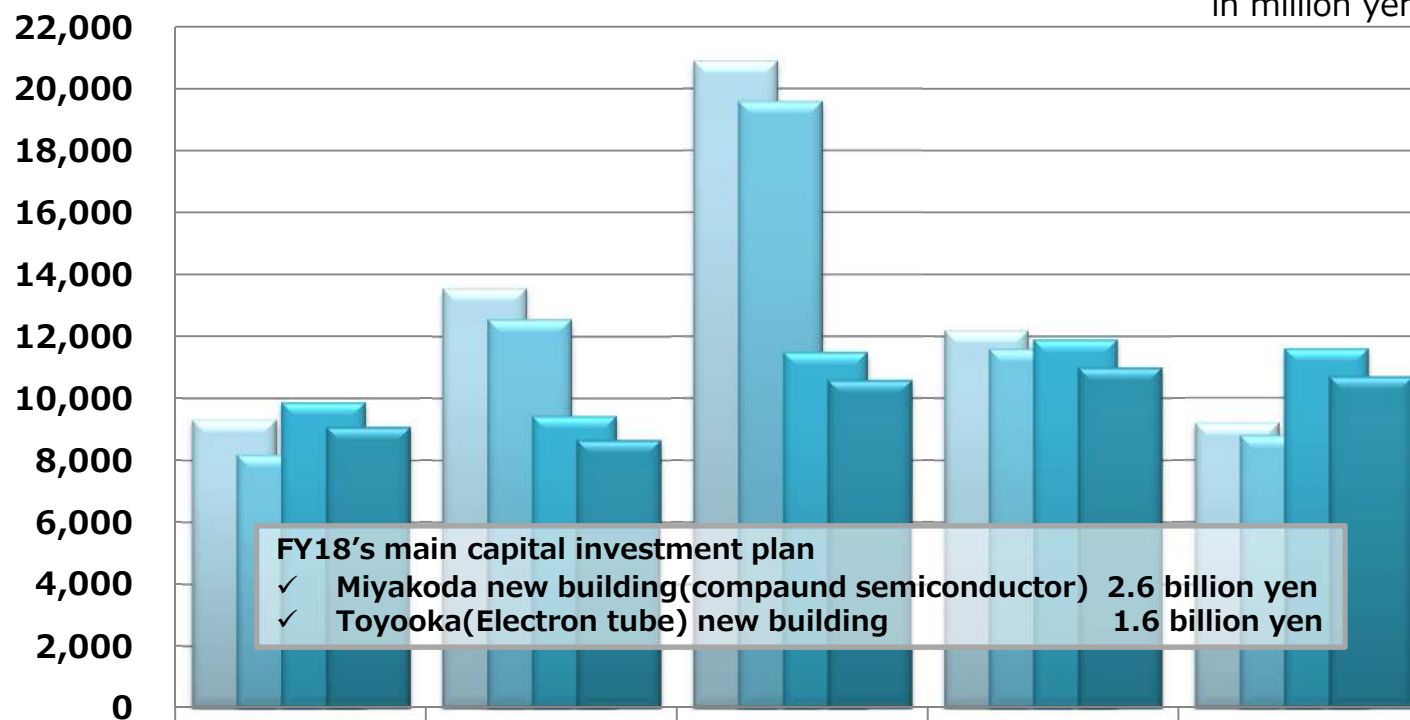
in million yen



■ Net Sales(Left)	101,858	98,067	102,156	112,092	120,691	121,852	130,495	136,300	147,400	157,400
■ Operating Income(Right)	21,830	17,587	16,781	21,665	23,596	20,544	22,849	23,600	26,900	31,000
■ Ordinary Income(Right)	22,216	18,350	17,883	22,531	24,658	20,050	24,037	23,900	27,300	31,400
■ Net Income(Right)	13,702	11,206	11,529	15,155	16,598	14,419	17,777	17,500	20,000	22,900

# Capital Investment (payment based) & Depreciation

in million yen

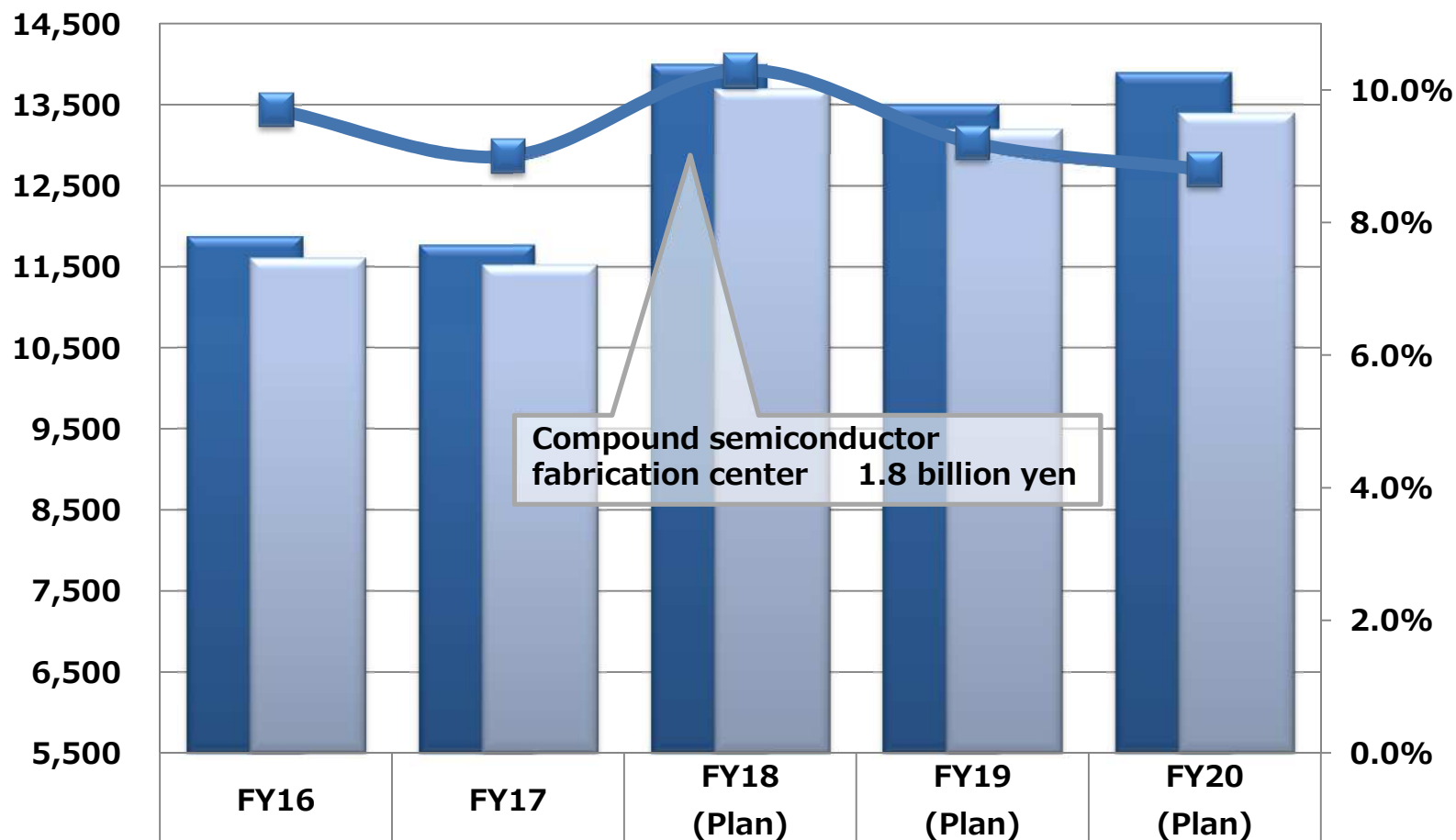


**FY18's main capital investment plan**  
 ✓ Miyakoda new building(compaund semiconductor) 2.6 billion yen  
 ✓ Toyooka(Electron tube) new building 1.6 billion yen

	FY16	FY17	FY18 (Plan)	FY19 (Plan)	FY20 (Plan)
Capital Inv.	9,315	13,572	20,900	12,200	9,200
Capital Inv. (non-cons.)	8,194	12,560	19,600	11,600	8,800
Depreciation	9,888	9,441	11,500	11,900	11,600
Depreciation (non-cons.)	9,085	8,666	10,600	11,000	10,700

# R & D Expense

in million yen



R & D	11,873	11,776	14,000	13,500	13,900
R & D (non-cons.)	11,608	11,529	13,700	13,200	13,400
R & D to Sales ratio	9.7%	9.0%	10.3%	9.2%	8.8%

# Sales by Region(Consolidated)

in million yen

Region	FY14	FY15			FY16			FY17		
	Year	Year	Y/Y	Share	Year	Y/Y	Share	Year	Y/Y	Share
Japan/Domestic	36,823	37,238	101.1%	30.9%	36,258	-2.6%	29.8%	38,378	+5.8%	29.4%
North America	31,101	35,135	113.0%	29.1%	32,704	-6.9%	26.8%	33,314	+1.9%	25.5%
Europe	27,682	29,603	106.9%	24.5%	30,138	+1.8%	24.7%	32,961	+9.4%	25.3%
Asia and China	16,248	18,381	113.1%	15.2%	22,489	+22.3%	18.5%	25,546	+13.6%	19.6%
Other	235	333	141.2%	0.3%	261	-21.6%	0.2%	293	+12.5%	0.2%
<b>Total</b>	<b>112,092</b>	<b>120,691</b>	<b>107.7%</b>	<b>100.0%</b>	<b>121,852</b>	<b>+1.0%</b>	<b>100.0%</b>	<b>130,495</b>	<b>+7.1%</b>	<b>100.0%</b>

\*numbers are rounded off to million yen

## Major countries on each region

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

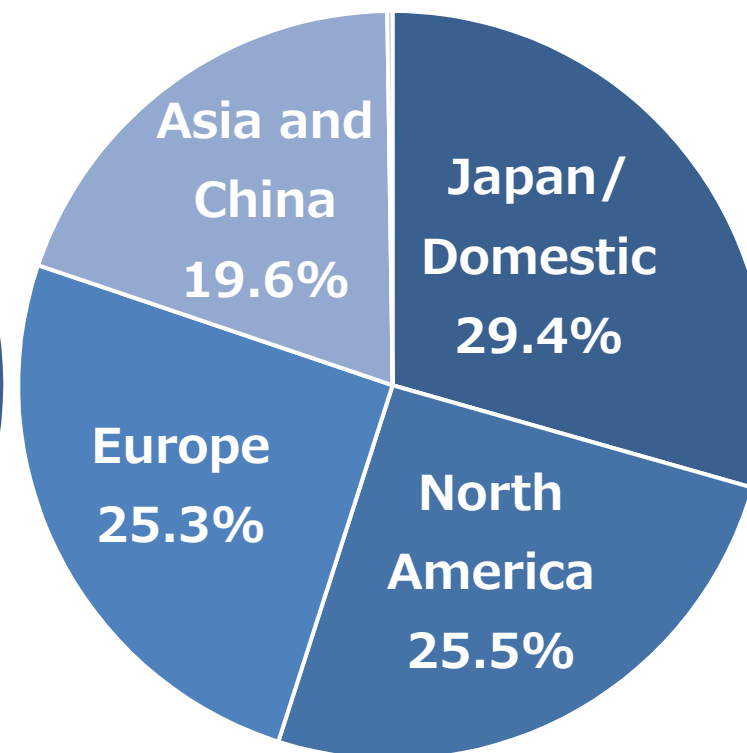
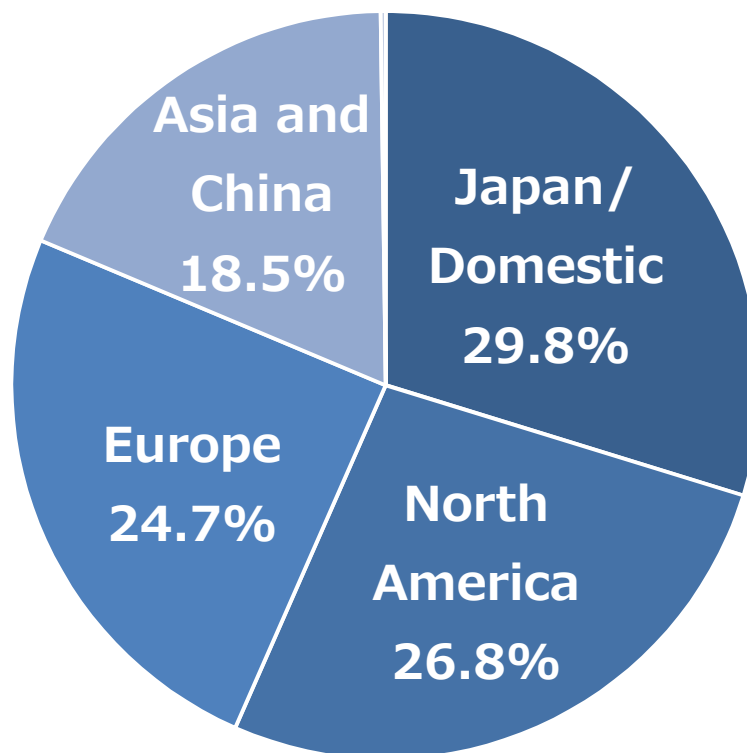


# Sales by Region(Consolidated)

**FY16**  
**121,852 million yen**



**FY17**  
**130,495 million yen**



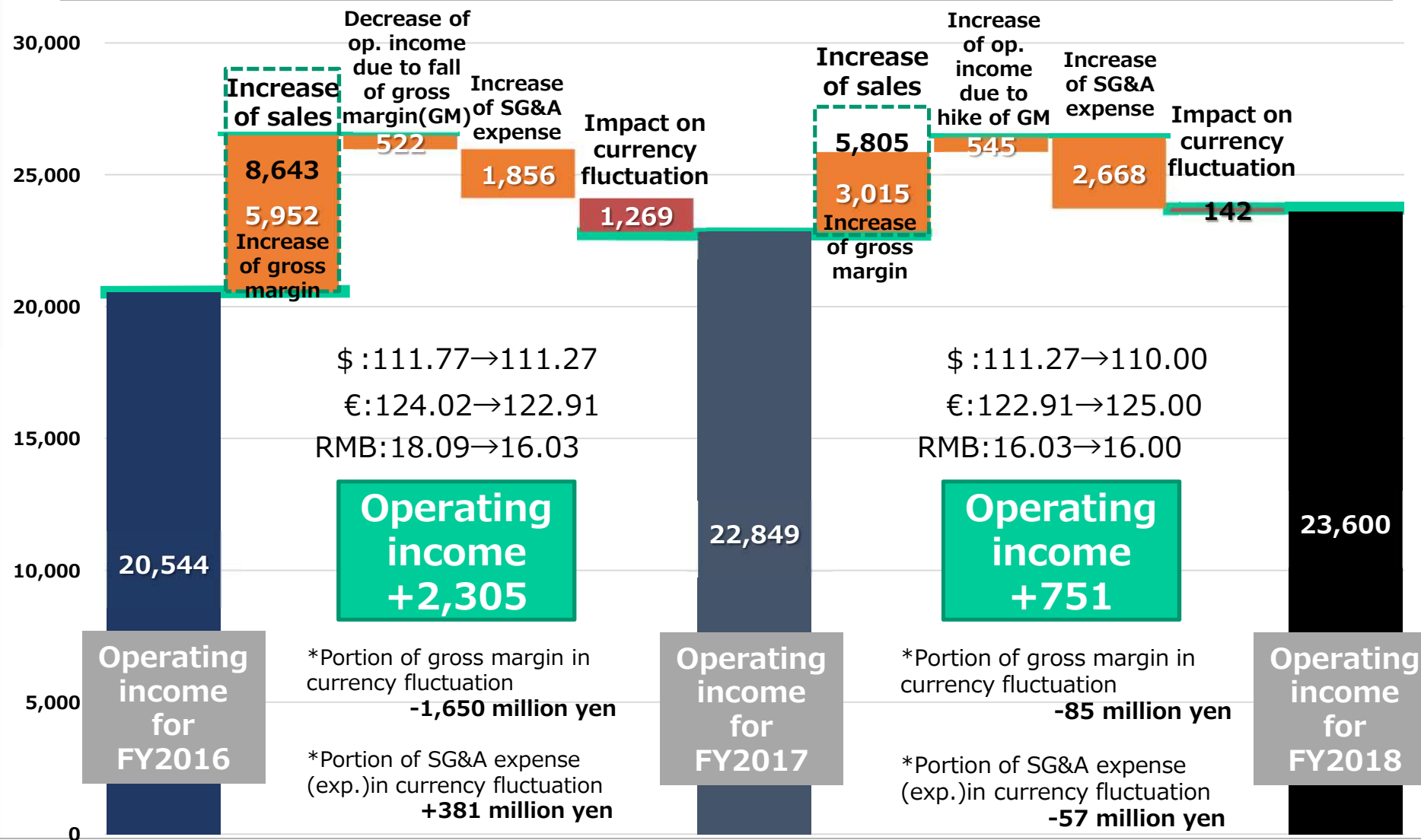
actual rates

**1 US dollar : 111.77 yen**  
**1 Euro : 124.02 yen**  
**1 RMB : 18.09 yen**

**1 US dollar : 111.27 yen**  
**1 Euro : 122.91 yen**  
**1 RMB : 16.03 yen**

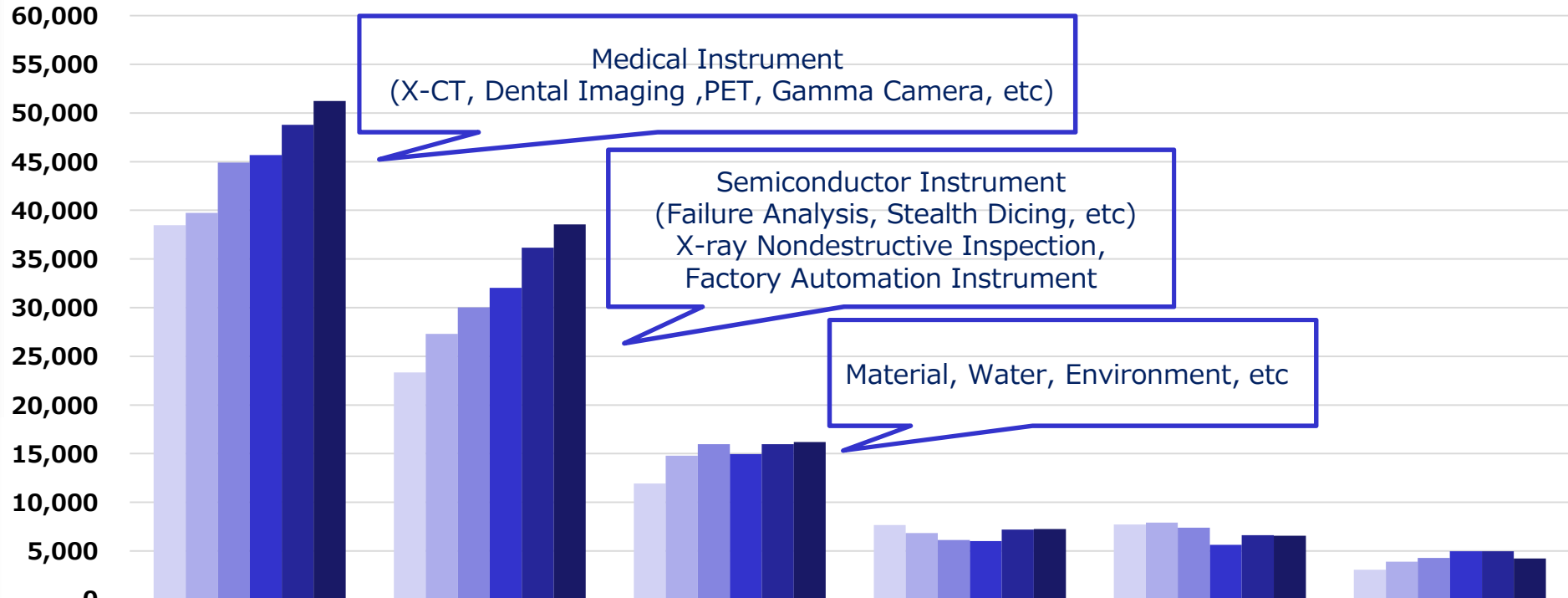
# Analysis of impact on currency fluctuation in operating income (trial calculation)

in million yen



# Sales by Industry & Application (Consolidated)

in million yen

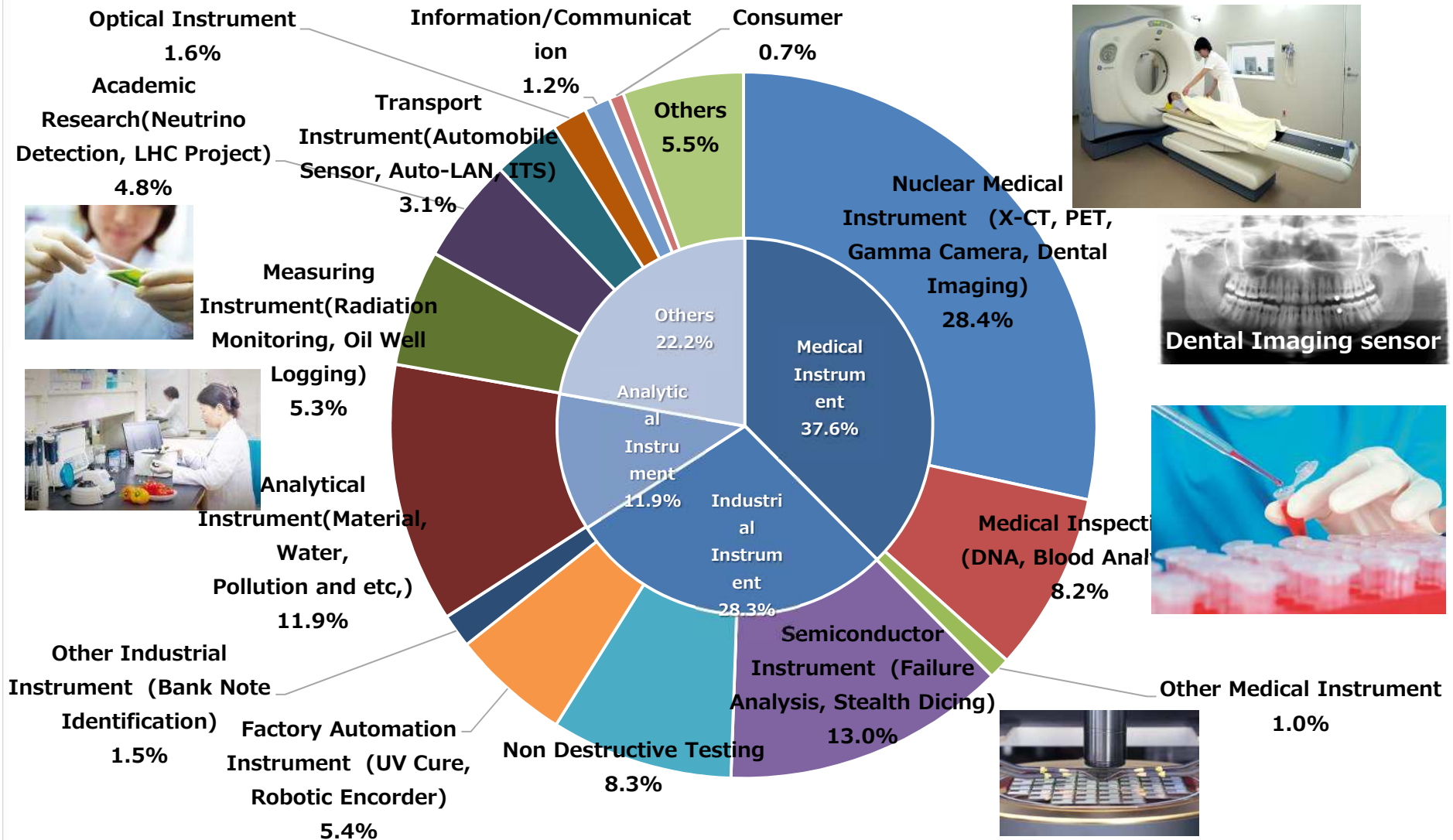


	Medical Instrument	Industrial Instrument	Analytical Instrument	Academic Research	Measuring Instrument	Transport Instrument
FY13	38,464	23,343	11,932	7,677	7,728	3,080
FY14	39,729	27,293	14,803	6,840	7,908	3,892
FY15	44,916	30,017	15,980	6,125	7,386	4,288
FY16	45,686	32,037	14,967	6,027	5,627	4,961
FY17	48,773	36,155	15,986	7,210	6,635	4,968
FY18 (Plan)	51,223	38,560	16,199	7,257	6,567	4,219

\*numbers are rounded off to million yen

# Sales by Industry & Application (Consolidated)

**FY18  
Projection**



# Sales by Industry & Application (Consolidated) 1/2

in million yen

Application	FY16				FY17				FY18(Plan)			
	March	September			March	September			March	September		
	1st Half	2nd Half	Year	%	1st Half	2nd Half	Year	%	1st Half	2nd Half	Year	%
<b>Medical Instrument</b>	23,272	22,414	45,686	37.5	24,641	24,132	48,773	37.4	25,255	25,967	51,223	37.6
Medical Instrument (X-CT, PET, Gamma Camera, Dental Imaging)	18,094	17,561	35,656	29.3	19,133	18,405	37,538	28.8	19,077	19,609	38,687	28.4
Medical Inspection (DNA, Blood Analyzer)	4,400	4,185	8,585	7.0	4,838	5,056	9,894	7.6	5,520	5,666	11,187	8.2
Other Medical Instrument	776	668	1,445	1.2	670	669	1,339	1.0	657	691	1,348	1.0
<b>Industrial Instrument</b>	15,824	16,213	32,037	26.3	17,324	18,831	36,155	27.7	18,983	19,576	38,560	28.3
Semiconductor Instrument (Failure Analysis, Stealth Dicing)	7,724	7,745	15,470	12.7	8,176	9,062	17,238	13.2	8,836	8,862	17,699	13.0
Non Destructive Testing	4,923	5,115	10,038	8.2	5,350	5,240	10,590	8.1	5,518	5,835	11,353	8.3
Factory Automation Instrument (UV Cure, Robotic Encoder)	2,104	2,433	4,537	3.7	2,787	3,391	6,178	4.7	3,637	3,773	7,410	5.4
Other Industrial Instrument (Bank Note Identification)	1,072	920	1,992	1.6	1,009	1,139	2,148	1.6	991	1,104	2,096	1.5
<b>Analytical Instrument : Material, Water, Environment</b>	8,168	6,799	14,967	12.3	7,886	8,100	15,986	12.3	8,149	8,050	16,199	11.9
<b>Academic Research: Neutrino/Dark Matter Detection</b>	3,576	2,451	6,027	4.9	3,850	3,360	7,210	5.5	4,087	3,170	7,257	5.3
<b>Exchange Rates</b>	actual		actual		actual		actual		assumption			
1 US dollar (yen)	118.39	–	111.77		111.51	–	111.27		110.00			
1 euro (yen)	130.05	–	124.02		119.45	–	122.91		125.00			

# Sales by Industry & Application (Consolidated) 2/2

in million yen

Application	FY16				FY17				FY18(Plan)			
	March	September			March	September			March	September		
	1st Half	2nd Half	Year	%	1st Half	2nd Half	Year	%	1st Half	2nd Half	Year	%
Measuring Instrument: Radiation Monitoring, Oil Well Logging	3,025	2,602	5,627	4.6	3,174	3,461	6,635	5.1	3,258	3,308	6,567	4.8
Transport Instrument: Automobile Sensor,Auto-LAN, ITS	2,513	2,448	4,961	4.1	2,467	2,501	4,968	3.8	2,091	2,128	4,219	3.1
Information/Communication: Optical Communication, Computer Storage,Communication Equipment	1,121	1,117	2,238	1.8	1,082	973	2,055	1.6	1,097	1,087	2,184	1.6
Optical/Photographic Instrument: Laser Microscope	829	955	1,784	1.5	1,004	796	1,800	1.4	819	816	1,636	1.2
Consumer Instrument: Audio Link,Auto-dimming	264	328	593	0.5	425	494	919	0.7	468	442	911	0.7
Others/Not Classified	4,247	3,683	7,931	6.5	3,093	2,897	5,990	4.6	3,487	4,051	7,539	5.5
<b>Total</b>	<b>62,843</b>	<b>59,009</b>	<b>121,852</b>	<b>100.0</b>	<b>64,953</b>	<b>65,542</b>	<b>130,495</b>	<b>100.0</b>	<b>67,700</b>	<b>68,600</b>	<b>136,300</b>	<b>100.0</b>
<b>Exchange Rates</b>	<b>actual</b>		<b>actual</b>		<b>actual</b>		<b>actual</b>		<b>assumption</b>			
1 US dollar (yen)	118.39	—	111.77		111.51	—	111.27		110.00			
1 euro (yen)	130.05	—	124.02		119.45	—	122.91		125.00			

# High-Energy Physics Experiments using Photomultiplier Tubes

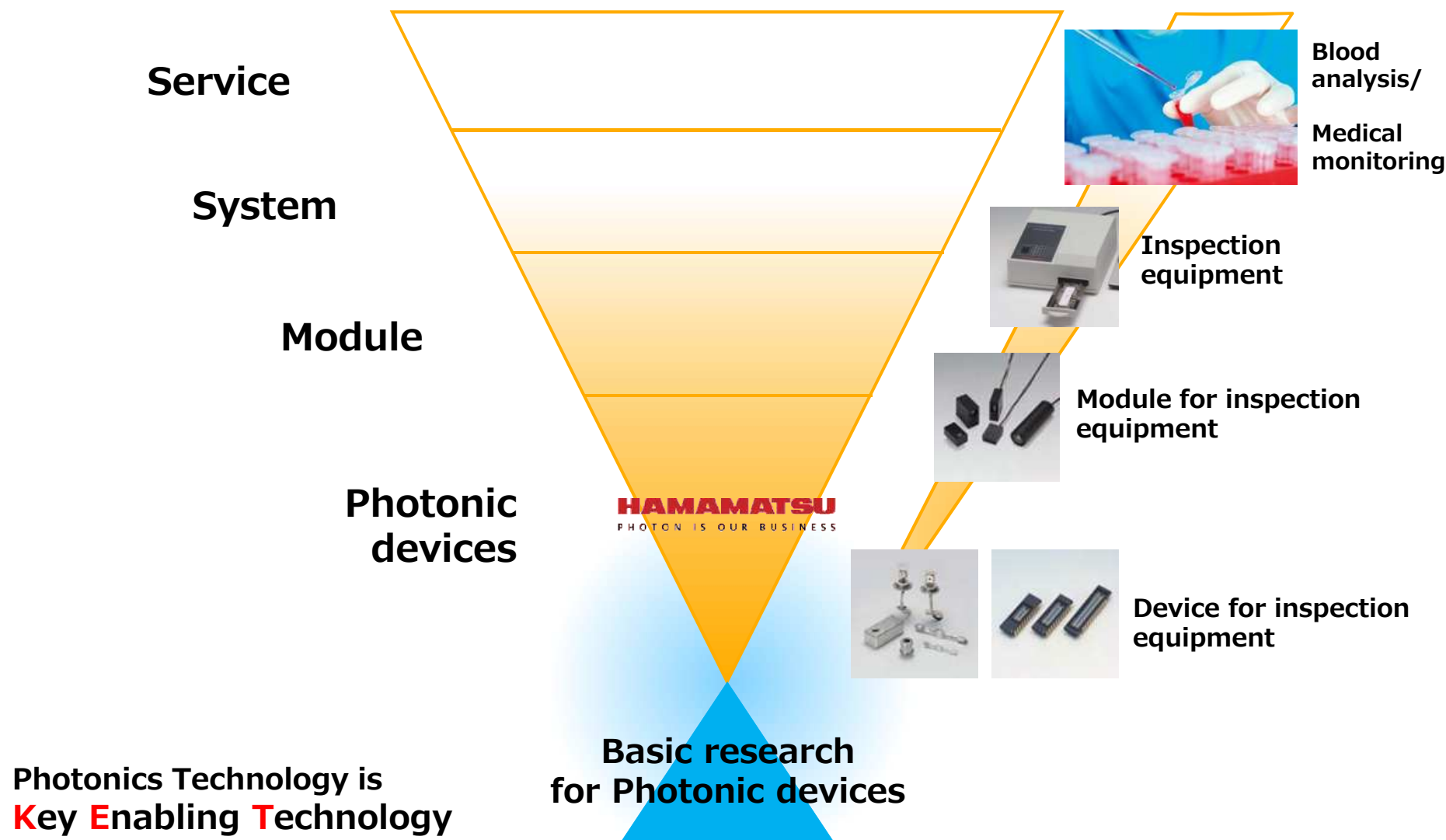
	Project Name	Purpose	Place	Expected year of first delivery	number
Underground	Hyper-Kamiokande	Neutrino, Proton Decay	Japan	2018	82,000 14,000
	LZ7(7t)/SURF	Dark Matter	USA	2016	460 100 135
	JUNO(Daya Bay II )	Neutrino	China	2016	5,000
Deep-sea	KM3NeT	Neutrino	Europe	2018	175,000
	Baikal-GVD	Neutrino	Russia	2015	10,000
Ice experiment	IceCube-PINGU	Neutrino	Antarctica	2018	60,000
	IceCube-HEX	Neutrino	Antarctica	2021	282,000
Ground-surface	CTA	Gamma-Ray Space Telescope	Southern and Northern Hemisphere	2015	96,000
Space	K-EUSO	Extreme energy cosmic ray particle	ISS	2020	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

---

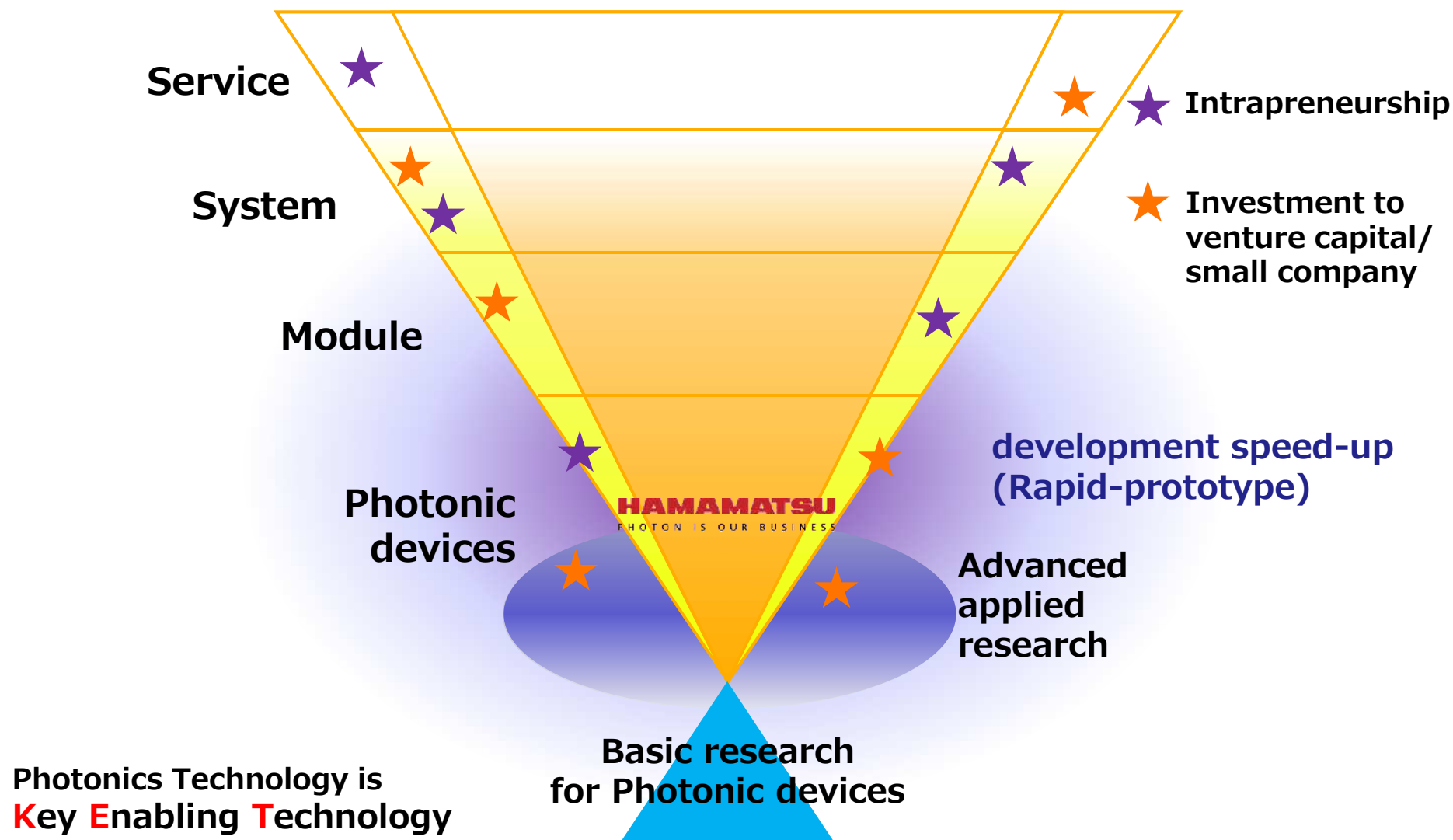
# Medium- and long-term vision



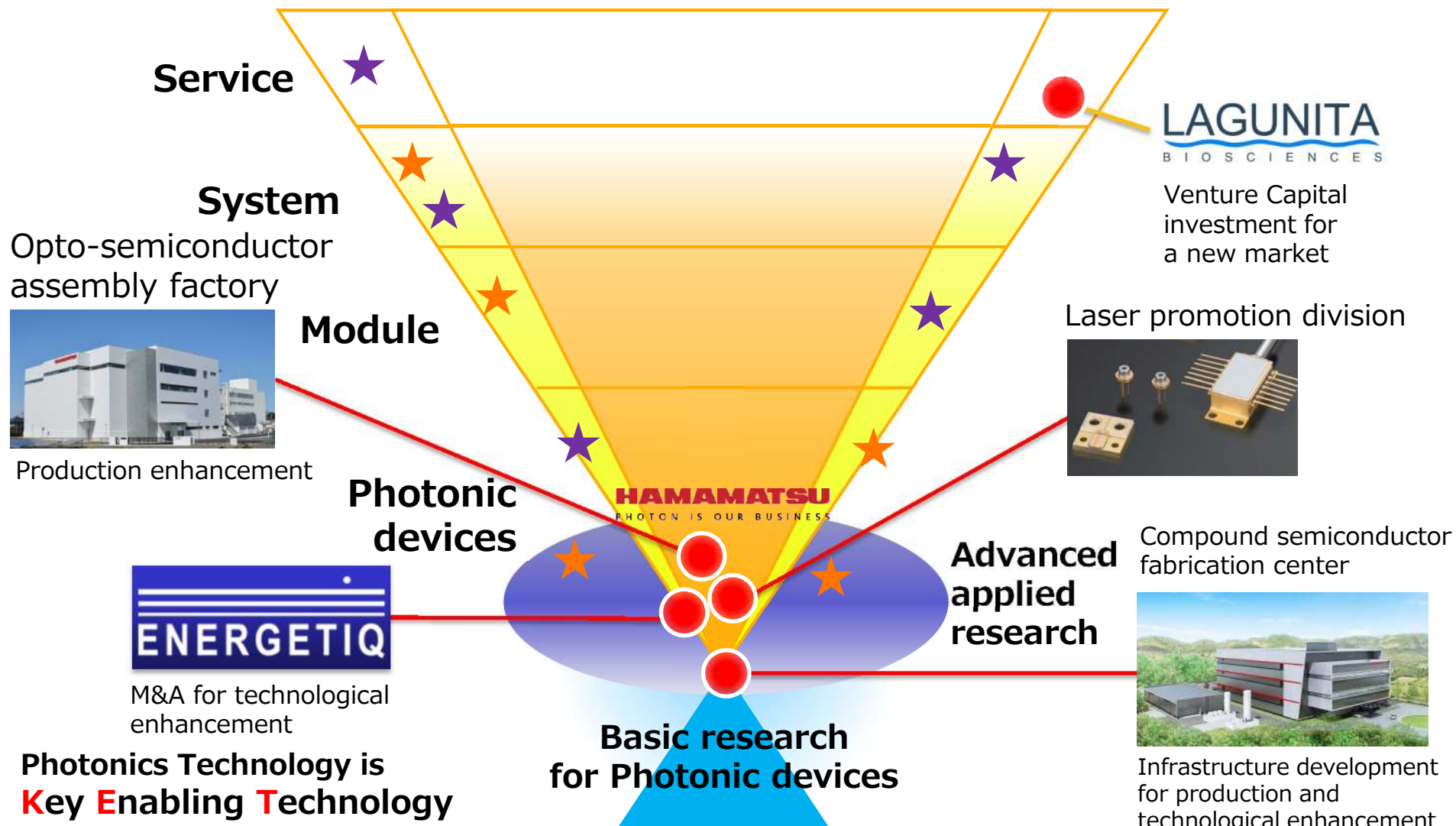
# Structure of Industry using Photonics Technology



# Sustainable growth strategy



# Competitiveness enhancement



# Compound semiconductor fabrication center

(Infrastructure development for production and technological enhancement)

## ➤ Purpose

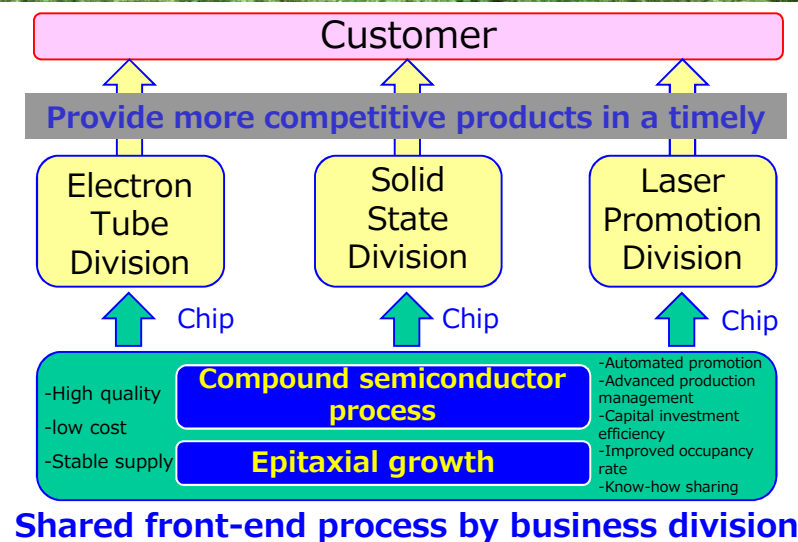
- As the IR light market is expected to expand, investment to strengthen the production capacity of compound opto-semiconductor's sensor and light source.

## ➤ Overview

- Shinmiyakoda, Kita-ward, Hamamatsu-city
- Completed at Nov. 2017
- Operation scheduled at Apr. 2018
- Steel-framed and 4 story building (quake-absorbing structure)
- Building area : 3,767m<sup>2</sup>
- Total floor area : 9,944m<sup>2</sup>
- Monthly production : 2 thousand in 2 inch wafer equivalent

## ➤ Investment amount

- Approx. 4.3 billion yen

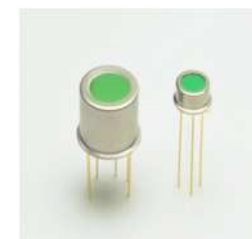


# Compound semiconductor fabrication center

(Infrastructure development for production and technological enhancement)

## ➤ Application of IR

- Analysis -Food, Air, Water quality, Gas etc.  
LED+InGaAs, QCL+InAsSb
- Industry -Laser processing, encoder  
DDL, CWLD for fiber laser pumping, LED
- Medical -Gas monitor(breath analysis etc.)  
QCL+InAsSb
- Communication -Optical communication,  
-Quantum encryption communication  
InGaAs-PD、 InGaAs-APD
- Transportation -In-vehicle biometric identification, LiDAR  
PLD, Infrared LED, InGaAs-APD
- Measurement -Disaster prevention detection(In tunnel)



## ➤ Expected investment effect

- Production will start from Oct. 2020 and grow 9% per annum until 10 years later.
- Start operating from Apr. 2018, prepare for sequential migration work and stable production.



Hybrid device PIN photodiode

# Opto-semiconductor assembly factory (Production enhancement)

## ➤ Purpose

- Production enhancement for opto-semiconductor's back-end process (assembly and inspection).
  - It corresponds to increase of demand for sensor and light source for X-ray nondestructive inspection, automobile and industrial equipment etc. with growing demand.

## ➤ Overview

- Shingai-cho, Minami-ward, Hamamatsu-city
- Completed at Mar. 2017
- Operated at May 2017
- Steel-framed and 4 story building
- Building area : 2,659m<sup>2</sup>
- Total floor area : 9,342m<sup>2</sup>
- Monthly production : 6 million pieces

## ➤ Investment amount

- Approx. 2.8 billion yen







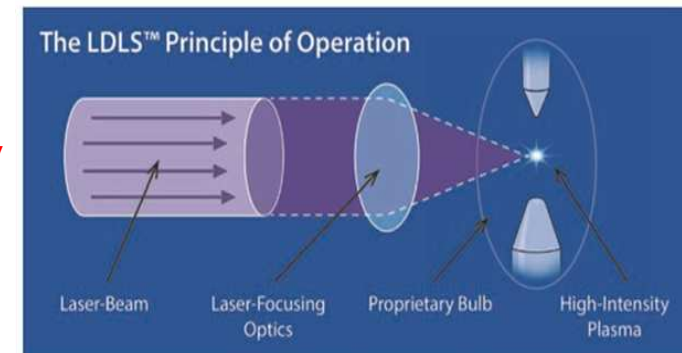
# M&A for technological enhancement

We acquired the technology of Energetiq technology, Inc..

## ➤ Overview

- ✓ Development, manufacturing and distribution of light source for semiconductor inspection.
  - ✓ High brightness UV light source  
LDLS : Laser Driven Light Source
  - ✓ **A high-technologically oriented company**  
The only company which produces EUV (Extreme Ultra Violet) light source.
- ✓ Amount paid 53 million dollar

## Laser-Driven Light Source



## ➤ Purpose

- ✓ Expansion of light source product lineup in our group
- ✓ Synergy of Energetiq's light source and our light source and sensor technology -More value-added product development
- ✓ Respond quickly to customer needs -Rapid prototyping

- We invested Lagunita Biosciences LLC from interaction with Stanford University.
- Venture capital and incubator for the purpose of technology and marketing.



**Lagunita Approach: 3 Stages Following Opportunity Selection**



## Expand the new application

- Prefetch of the market needs
- A new market gain
- Diversification of business category
- Human resource development



---

# Topics

# Change of Representative Director (plan)

---

## Change of Representative Director and Officers

As of today's date the Board of Directors has resolved to submit for approval the following changes of representative director and officers to the General Shareholders, the Board of Directors, and the Audit & Supervisory Board Members meetings to be held on December 22, 2017.

In an effort to strengthen the management and promote growth in our business, and due to the retirement of the current Representative Director, Haruji Ohtsuka, who will be assuming a Senior Adviser role, Junichi Takeuchi will assume the position of Representative Director, and Vice President. Mr. Takeuchi is currently Representative Director, Senior Managing Director and Divisional Manager of Electron Tube Division.

# Change of Director and Officers (plan)

---

The following individuals have been appointed to the Board as Directors:  
Kazuhiko Mori, presently Audit & Supervisory Board Member Tadashi Maruno,  
presently Deputy Divisional Manager of Systems Division Takayuki Suzuki,  
presently Deputy Divisional Manager of Solid State Division Ken Koibuchi(outside),  
presently Executive General Manager of Toyota Motor Corporation

The following individuals are retiring from active service on the Board:

Teruo Hiruma, presently Chairman of the Board  
Hitoshi Iida, presently Managing Director  
Mitsutaka Takemura, presently Managing Director  
Tadahiko Shimazu, presently Director  
Kiyotaka Ise(outside), presently Director

Mr. Teruo Hiruma will be awarded the position of Honorary Chairman. The Company thanks the retiring members of the Board for their service and contributions to the success of our business.

As for Board of Audit & Supervisory, Akira Utsuyama has been appointed as the member. Mr. Utsuyama is currently General Manager of the Intellectual Property Division. He replaces Kazuhiko Mori who will assume the position of Director.

# Improve shareholder returns and capital efficiency

## Purchase of Treasury Stock and Cancellation of Treasury Stock

### 1. Reasons for the purchase and cancellation of treasury stock

Our Company will purchase and cancel treasury stock in order to implement a flexible capital policy to respond to changes in the business environment and to improve shareholder returns and capital efficiency.

### 2. Details of matters pertaining to the purchase of treasury stock

- (1) Class of shares to be purchased: Common stock of the Company
- (2) Total number of shares to be purchased: 3,000,000 shares (maximum)  
(1.90% of the total number of shares issued [excluding treasury stock])
- (3) Total amount of purchase cost: ¥10 billion (maximum)
- (4) Purchase period: November 14, 2017 to March 23, 2018
- (5) Purchase method: at Tokyo Stock Exchange

### 3. Details of matters pertaining to the cancellation of treasury stock

- (1) Class of shares to be cancelled : Common stock of the Company
- (2) Number of shares to be cancelled: \* All shares of treasury stock purchased as stated in  
item 2 above
- (3) Scheduled date of cancellation: April 20, 2018

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