

Harmonic Drive Systems Inc.

Presentation on Business Results for the Fiscal Year Ended March 31, 2017

May 19, 2017

This presentation contains forward-looking statements relating to expected future performance as of May 19, 2017. Such statements are based on the views and assumptions of company management and involve risks and uncertainties such as changes in the business environment that may cause the actual results to differ materially from expectations.

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Performance Summary for FY 2017/3

Consolidated results for FY 2017/3 (versus original forecasts)

(millions of yen)

	Forecast (announced Mar 22, 2017)		FY2017/3 (actual)		Vs. original forecasts	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	30,000	100.0	30,069	100.0	69	0.2
Operating income	8,100	27.0	7,813	26.0	▲286	▲3.5
Ordinary income	8,400	28.0	7,958	26.5	▲441	▲5.3
Net income	20,500	68.3	19,732	65.6	▲767	▲3.8
EPS (yen)	223.81	—	215.42	—	▲8.39	▲3.8

Net income refers to net income attributable to owners of parent.

Consolidated results for FY 2017/3 (year-on-year change)

(millions of yen)

	FY2016/3		FY2017/3		Year-on-year change	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	28,278	100.0	30,069	100.0	1,790	6.3
Operating income	7,618	26.9	7,813	26.0	195	2.6
Ordinary income	7,829	27.7	7,958	26.5	129	1.7
Net income	5,001	17.7	19,732	65.6	14,730	294.5
EPS (yen)	54.60	—	215.42	—	160.82	294.5
Capital investment	4,296	—	4,576	—	280	6.5
Depreciation costs	1,524	—	1,774	—	250	16.4
R&D costs	1,404	—	1,383	—	▲21	▲1.5

Net income refers to net income attributable to owners of parent.

Performance of main group companies in FY2017/3

(millions of yen)

		Equity stake	Net sales		Net income	
			Amount	Year-on-year change (%)	Amount	Year-on-year change (%)
	Harmonic Drive Systems Inc.	—	26,747	12.7	5,206	13.0
*2 *5	HD Systems, Inc. (Harmonic Drive L.L.C.) (U.S.A)	100% (51%)	4,576	▲5.6	242	▲9.9
	Harmonic AD, Inc.	100%	2,377	6.0	142	0.6
*3	Harmonic Drive Systems (Shanghai) Co., Ltd.	100%	2,257	▲12.6	▲36	—
*4 *6	Harmonic Drive AG (Germany)	74.7%	10,208	2.8	1,064	39.8

*1 For overseas subsidiaries and affiliates, the fiscal year ends December 31.

*2 Exchange rates: FY15/12 1USD = 121.05yen, FY16/12 1USD = 108.84yen

*3 Exchange rates: FY15/12 1CNY = 19.22yen, FY16/12 1CNY = 16.37yen

*4 Exchange rates: FY15/12 1EUR = 134.31yen, FY16/12 1EUR = 120.33yen

*5 Net income of US subsidiaries (consolidated) is after excluding minority interests.

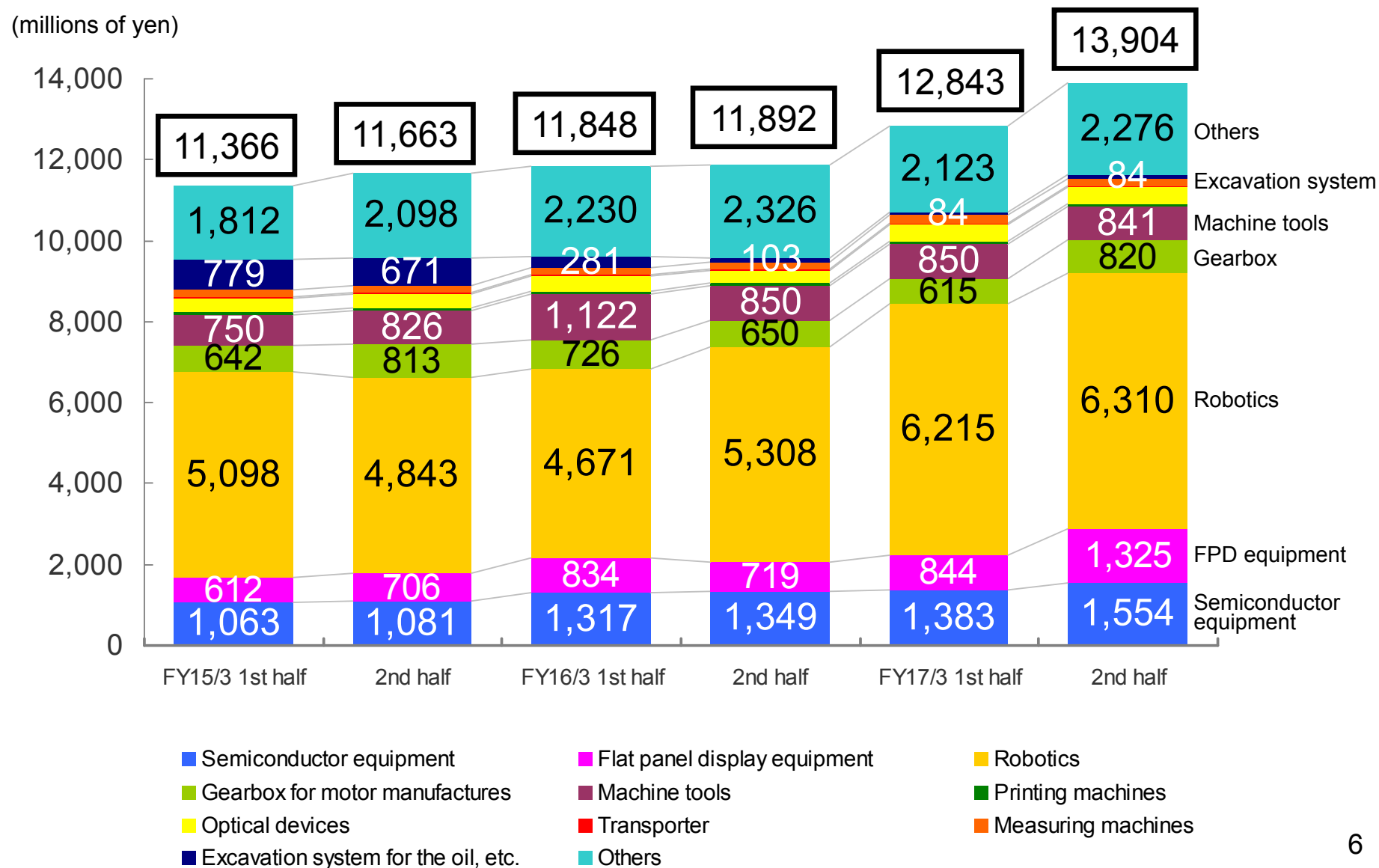
*6. Net Sales and net income of Harmonic Drive AG are non-consolidated.

Non-consolidated results for FY2017/3 (year-on-year change)

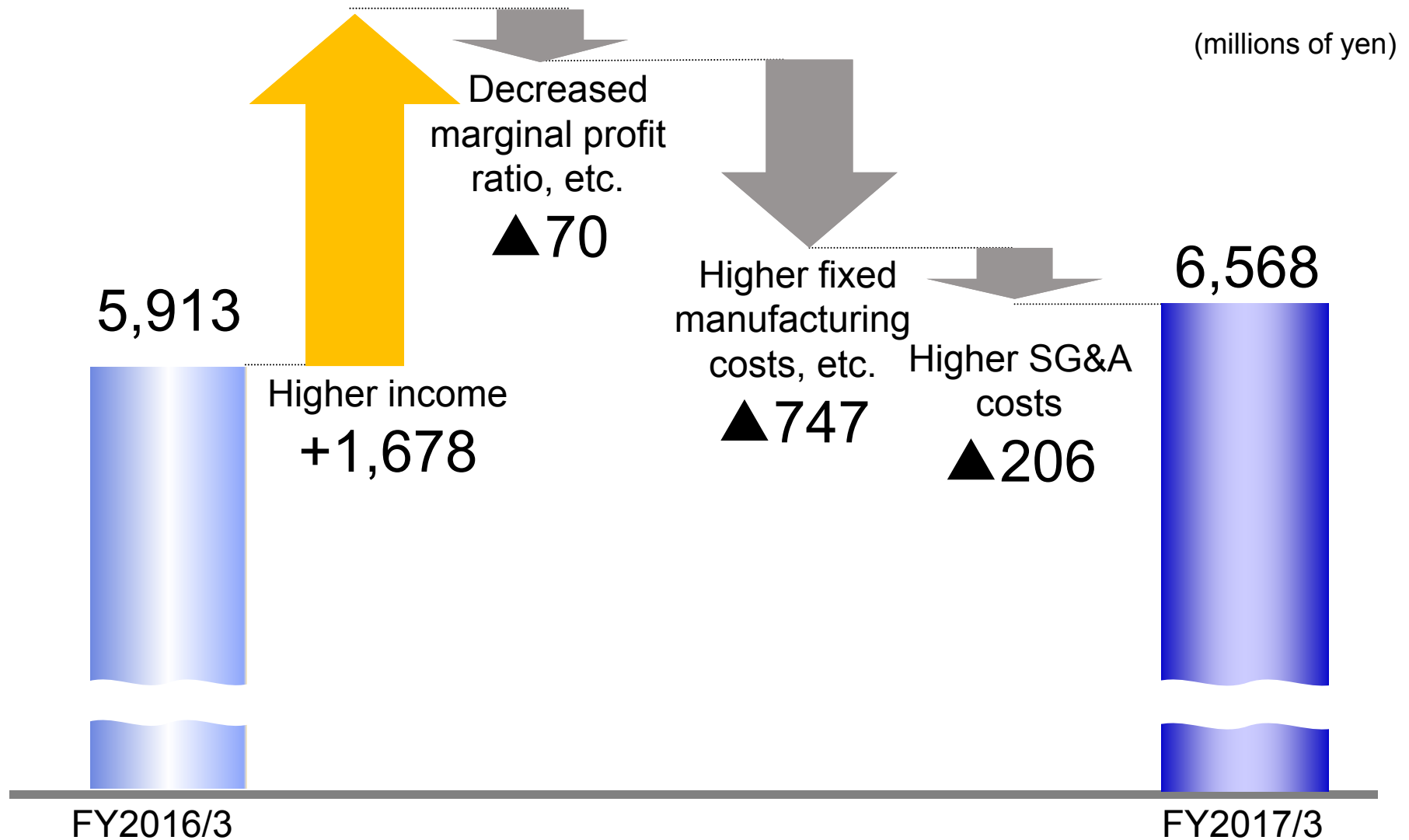
(millions of yen)

	FY2016/3		FY2017/3		Year-on-year change	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	23,740	100.0	26,747	100.0	3,007	12.7
Operating income	5,913	24.9	6,568	24.6	654	11.1
Ordinary income	6,625	27.9	7,233	27.0	607	9.2
Net income	4,608	19.4	5,206	19.5	598	13.0
EPS (yen)	50.31	—	56.85	—	6.54	13.0
Capital investment	3,462	—	3,453	—	▲8	▲0.2
Depreciation costs	898	—	1,181	—	283	31.5
R&D costs	1,395	—	1,355	—	▲40	▲2.9

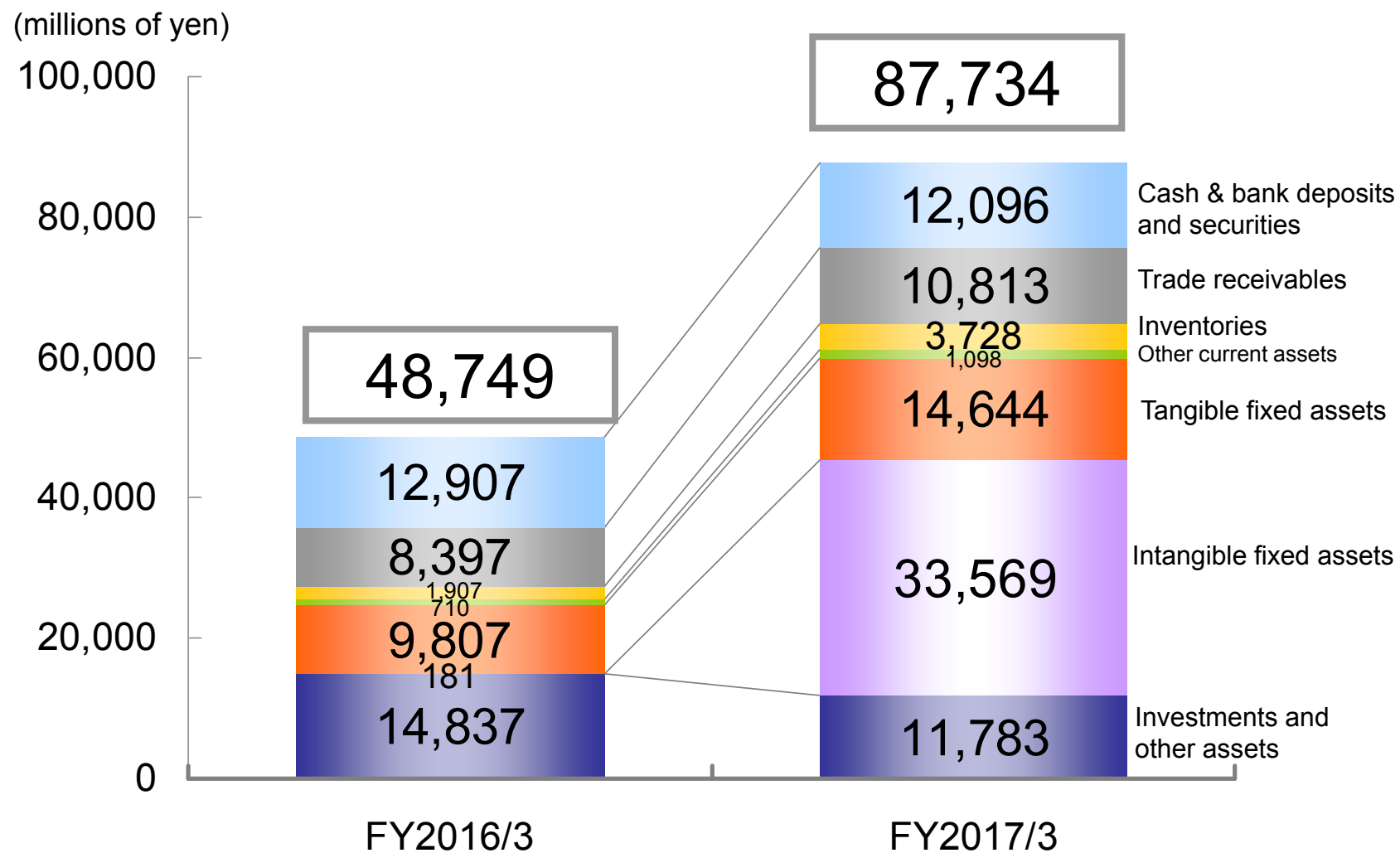
Net sales by application (non-consolidated)



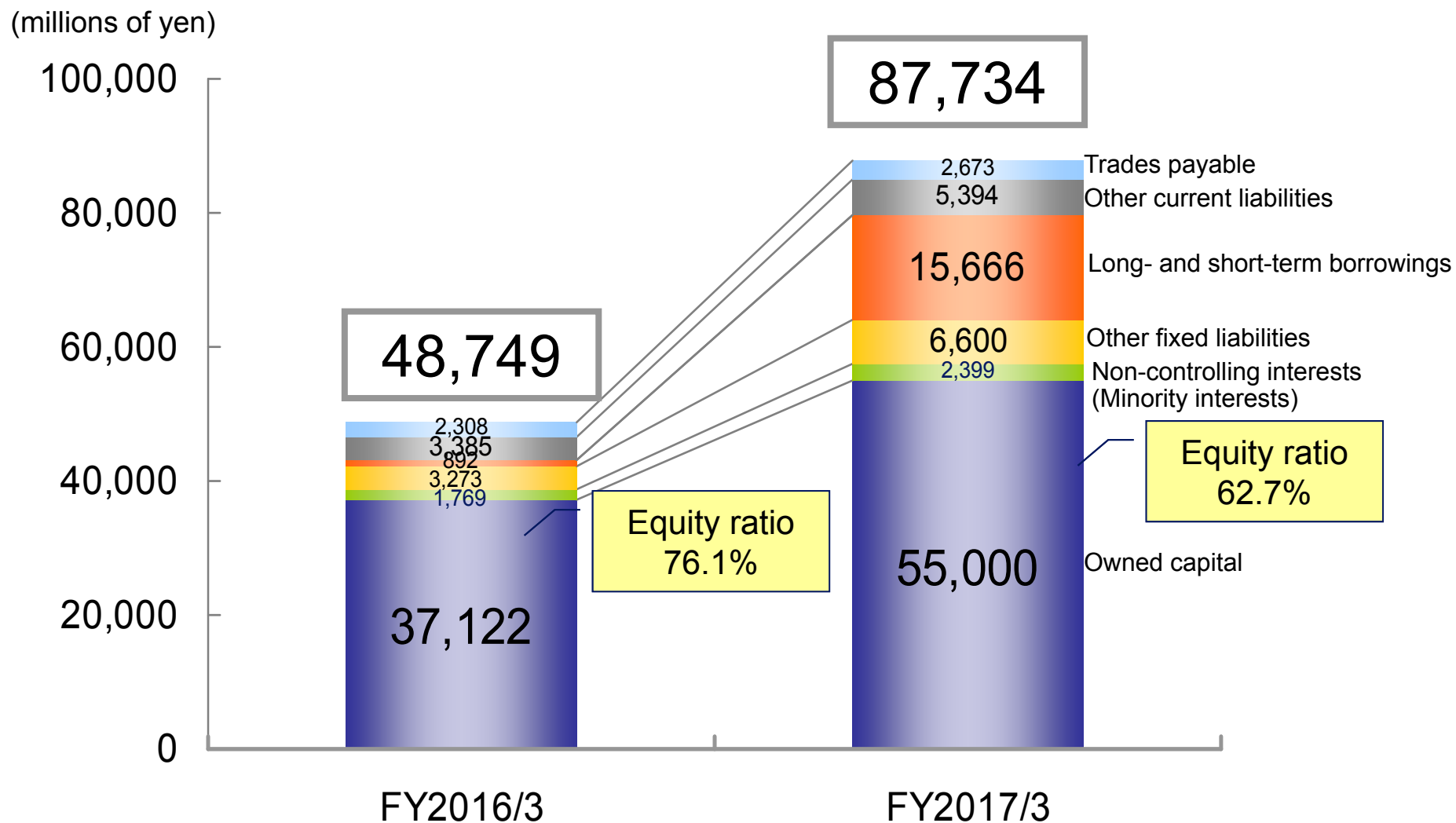
Factors in year-on-year change in non-consolidated operating income (FY2017/3)



Status of consolidated assets



Status of consolidated liabilities and net assets



Status of consolidated cash flows

(millions of yen)	FY2016/3	FY2017/3
Cash flow from operating activities	6,499	7,225
Cash flow from investing activities	▲4,394	▲32,522
Cash flow from financing activities	▲1,384	24,648
Effect of exchange rate changes on cash and cash equivalents	▲11	▲121
Net increase (decrease) in cash and cash equivalents	708	▲770
Cash and cash equivalents at end of year	10,439	9,668

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Performance Forecasts for FY 2018/3

Consolidated performance forecasts for FY 2018/3

(millions of yen)

	FY2017/3		FY2018/3 forecasts		Year-on-year change	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	30,069	100.0	49,500	100.0	19,430	64.6
Operating income	7,813	26.0	12,000	24.2	4,186	53.6
Ordinary income	7,958	26.5	12,000	24.2	4,041	50.8
Net income	19,732	65.6	7,300	14.7	▲12,432	▲63.0
EPS (yen)	215.42	—	79.70	—	▲135.73	▲63.0
Capital investment	4,576	—	8,500	—	3,923	85.7
Depreciation costs	1,774	—	2,950	—	1,175	66.2
R&D costs	1,383	—	1,700	—	316	22.9

Assumed exchange rate for FY18/3 forecasts 1USD = ¥110.00 1EUR = ¥120.00 1CNY=¥16.00

Net income refers to net income attributable to owners of parent.

FY 2018/3 forecasts for main group firms

(millions of yen)

		Equity stake	Net sales		Net income	
			Amount	Year-on-year change (%)	Amount	Year-on-year change (%)
	Harmonic Drive Systems Inc.	—	36,000	34.6	6,500	24.8
*2 *5	HD Systems, Inc. (Harmonic Drive L.L.C.) (U.S.A)	100% (51%)	5,100	11.5	245	1.0
	Harmonic AD, Inc.	100%	2,700	13.6	200	40.8
*3	Harmonic Drive Systems (Shanghai) Co., Ltd.	100%	4,250	88.2	250	—
*4 *6	Harmonic Drive AG (Germany)	74.7%	12,700	11.3	2,200	98.3

*1 For overseas subsidiaries and affiliates, the fiscal year ends December 31.

*2 Exchange rates: FY16/12 1USD = 108.84yen, FY17/12 (forecast) 1USD = 110.00yen

*3 Exchange rates: FY16/12 1CNY = 16.37yen, FY17/12 (forecast) 1CNY = 16.00yen

*4 Exchange rates: FY16/12 1EUR = 120.33yen, FY17/12 (forecast) 1EUR = 120.00yen

*5 Net income of US subsidiaries (consolidated) is after excluding minority interests.

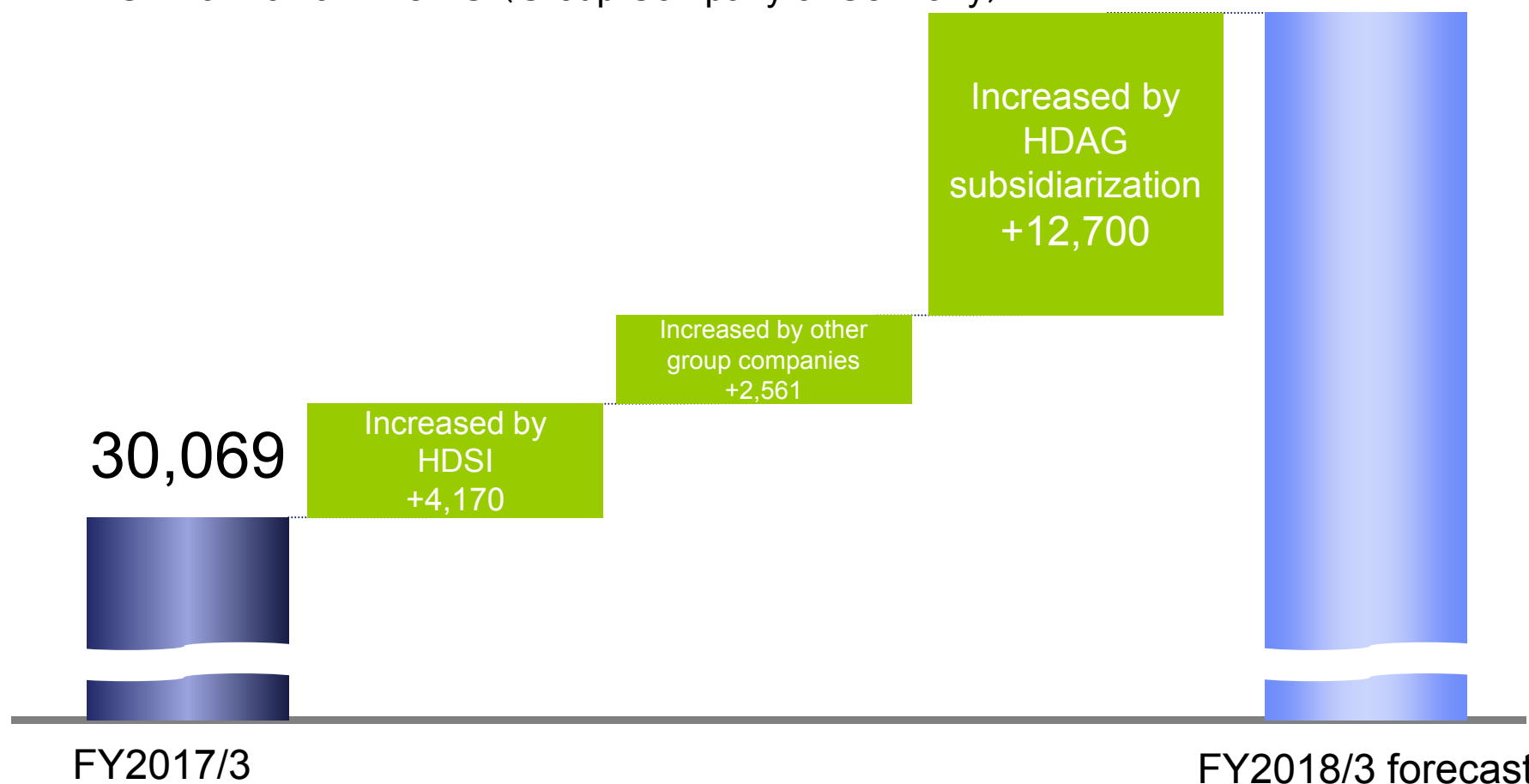
*6 Net Sales and net income of Harmonic Drive AG are consolidated.

Factors in the increase in consolidated sales (FY2018/3 forecast)

(millions of yen)

HDSI: Harmonic Drive Systems Inc.

HDAG : Harmonic Drive AG (Group Company of Germany)



※Increased by HDSI represents the amounts after eliminating the inter-company transactions.

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Non-consolidated performance forecasts for FY 2018/3

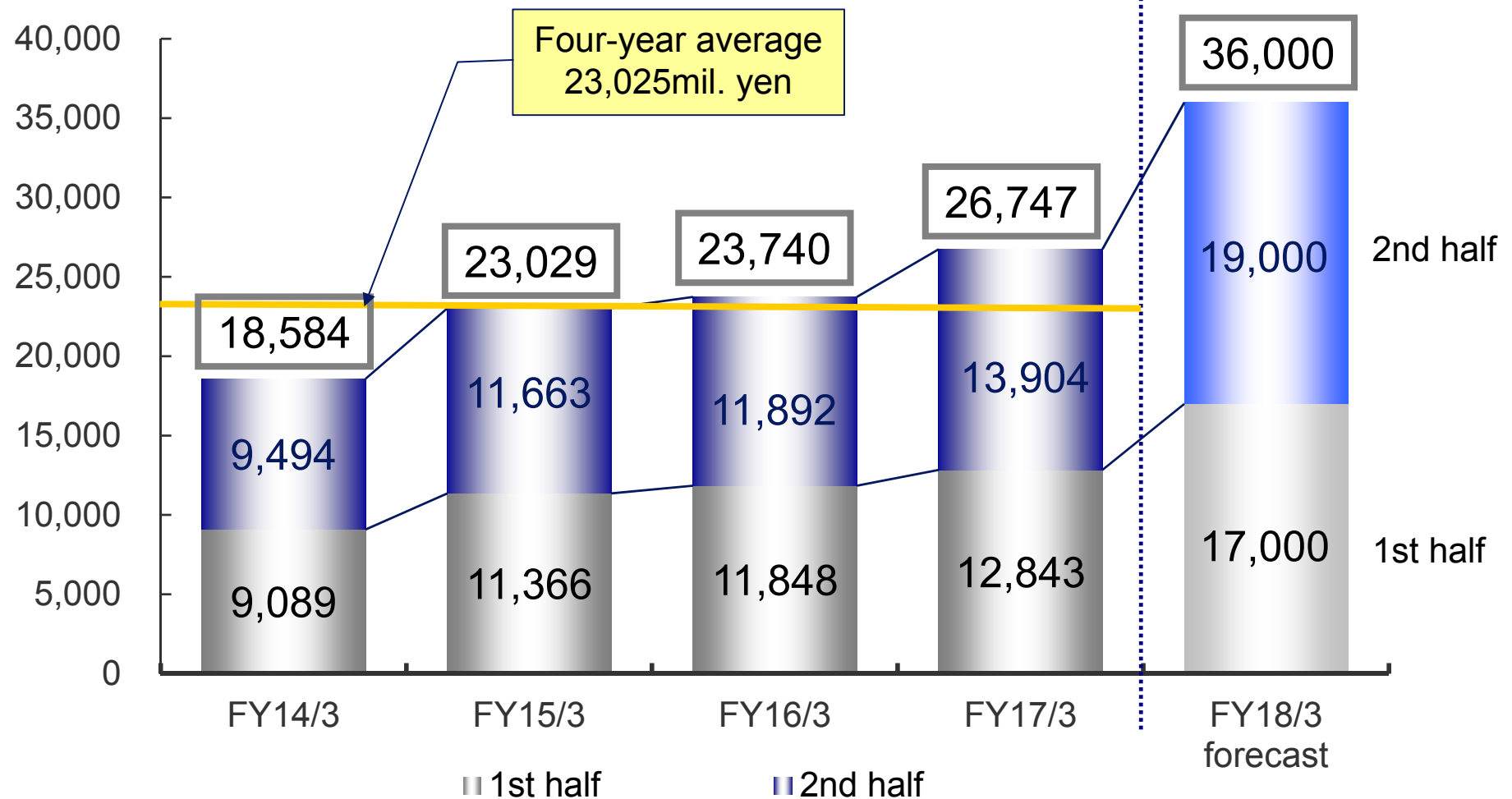
(millions of yen)

	FY2017/3		FY2018/3 forecasts		Year-on-year change	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	26,747	100.0	36,000	100.0	9,252	34.6
Operating income	6,568	24.6	9,300	25.8	2,731	41.6
Ordinary income	7,233	27.0	9,300	25.8	2,066	28.6
Net income	5,206	19.5	6,500	18.1	1,293	24.8
EPS (yen)	56.85	—	70.96	—	14.11	24.8
Capital investment	3,453	—	6,000	—	2,546	73.7
Depreciation costs	1,181	—	1,800	—	618	52.3
R&D costs	1,355	—	1,600	—	244	18.1

Assumed exchange rate for FY18/3 forecasts 1USD = ¥110.00 1EUR = ¥120.00 1CNY = ¥16.00

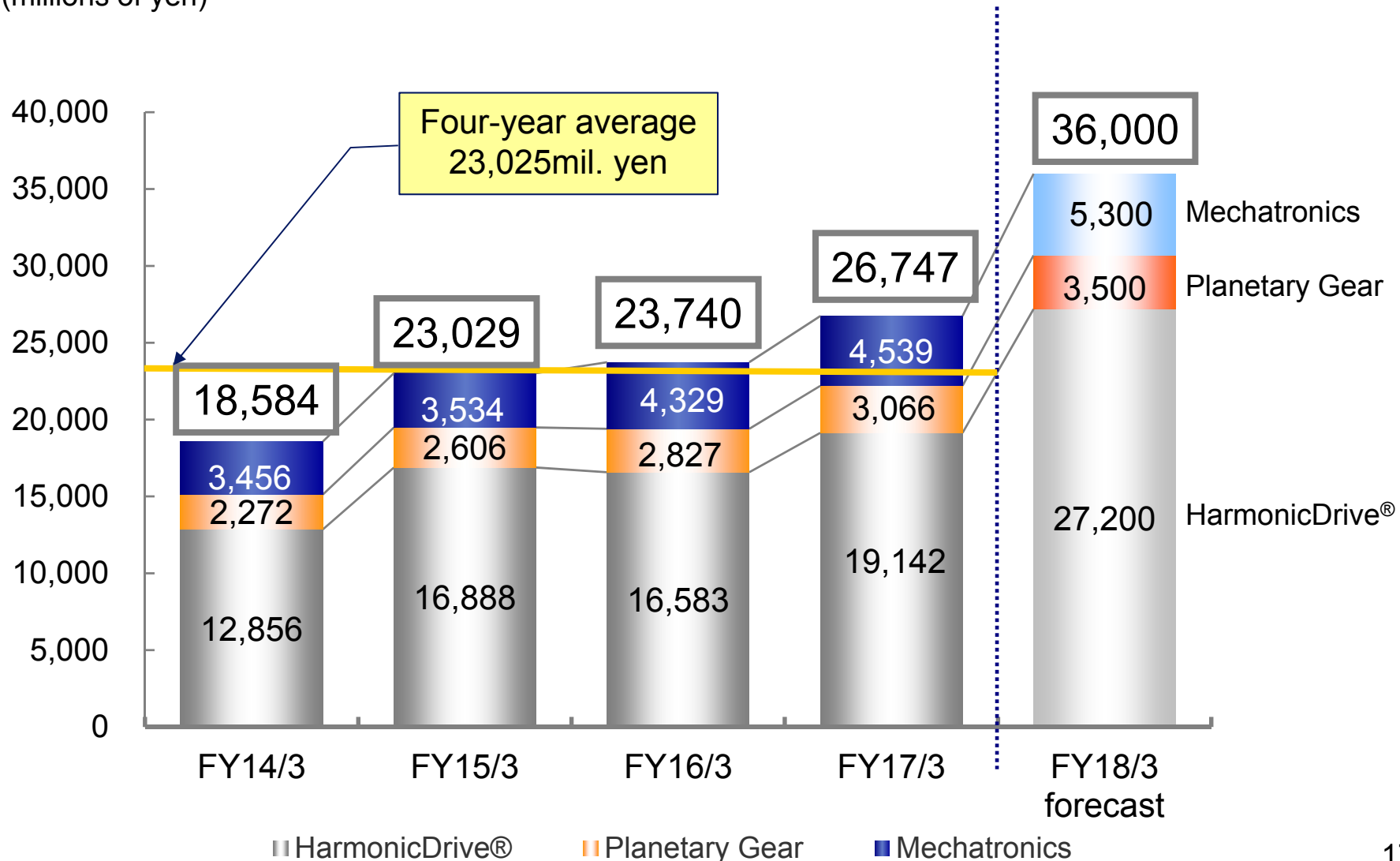
Sales trend line (non-consolidated)

(millions of yen)



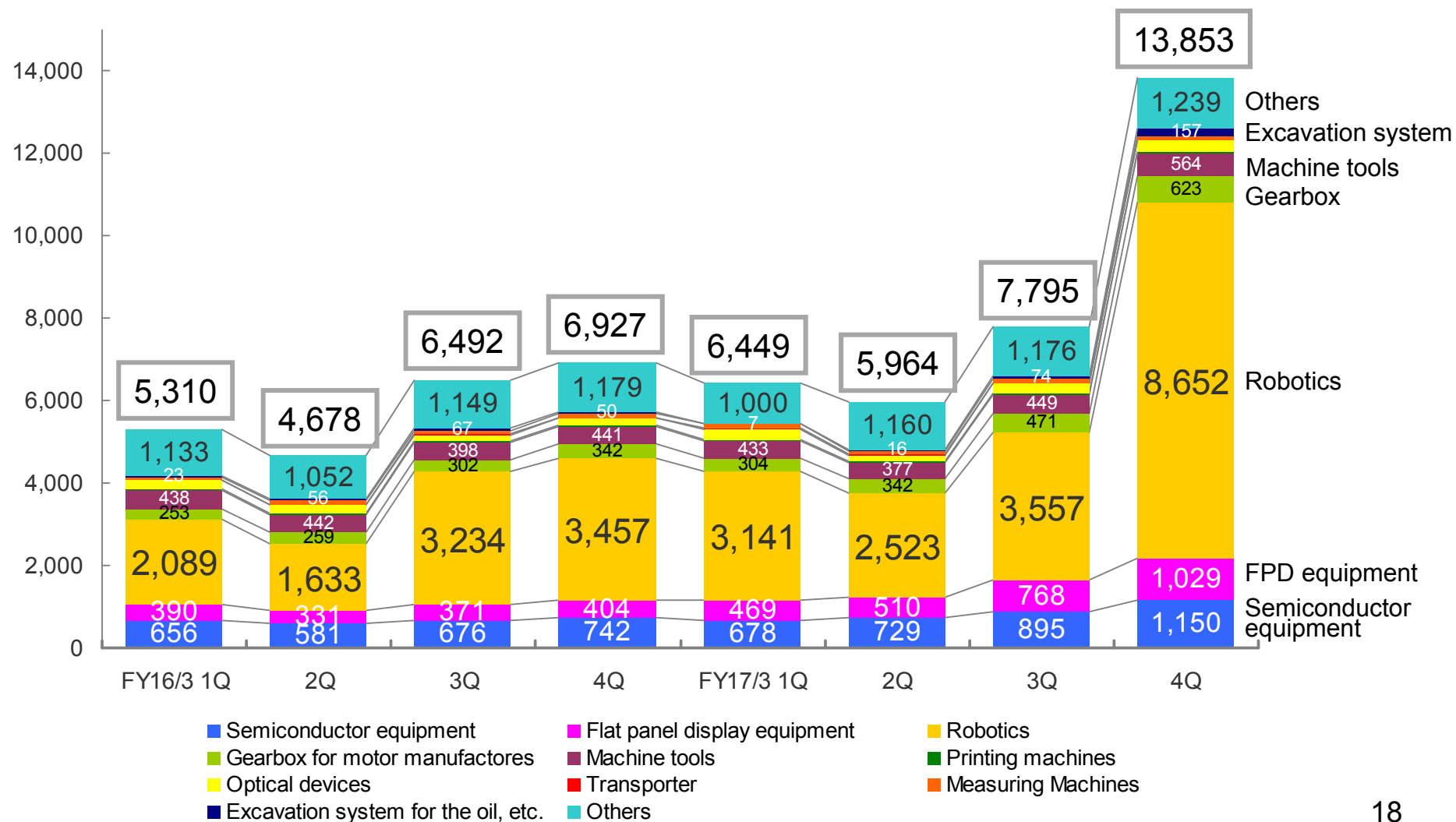
Sales trend line by product (non-consolidated)

(millions of yen)

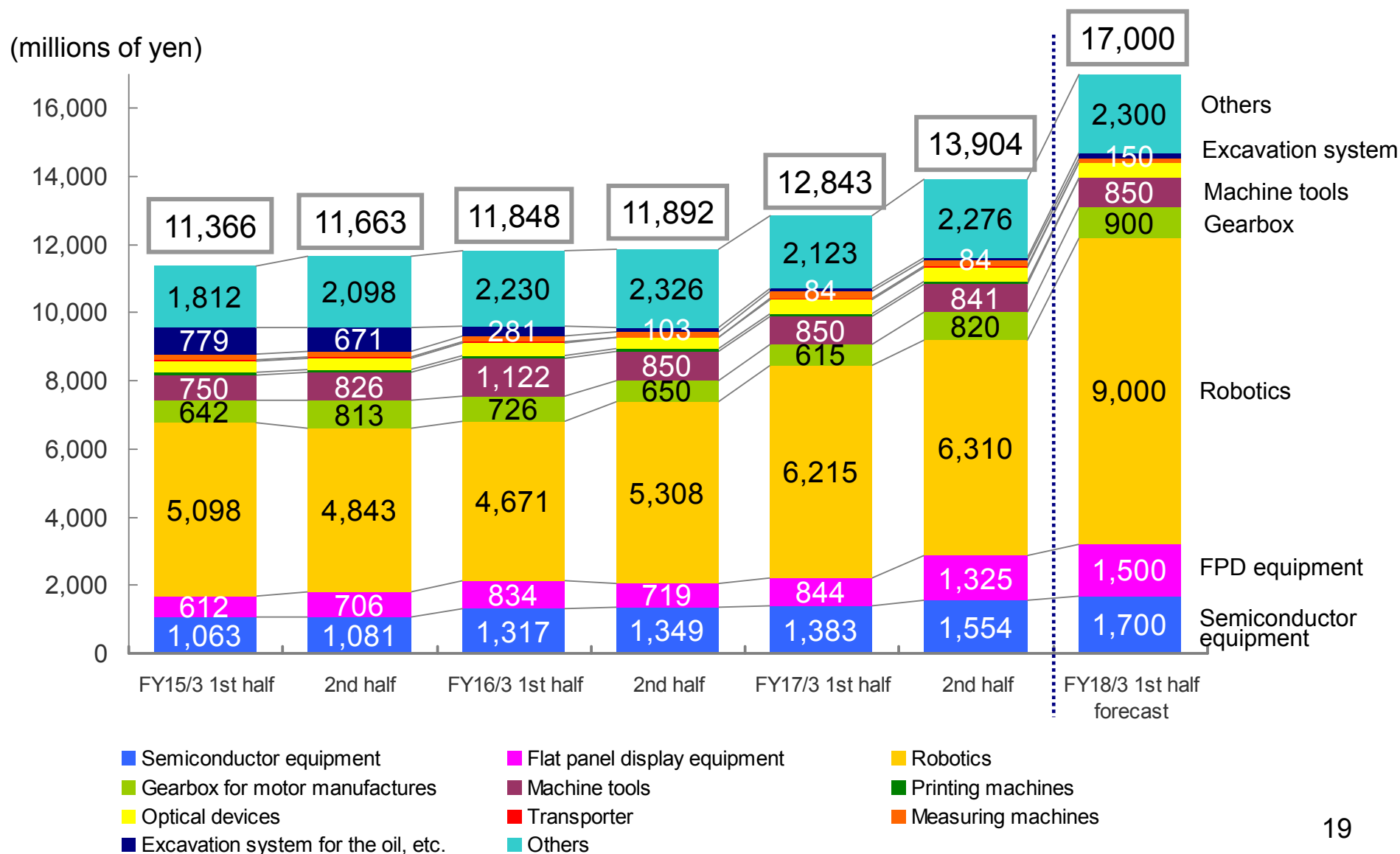


Non-consolidated bookings by application (quarterly)

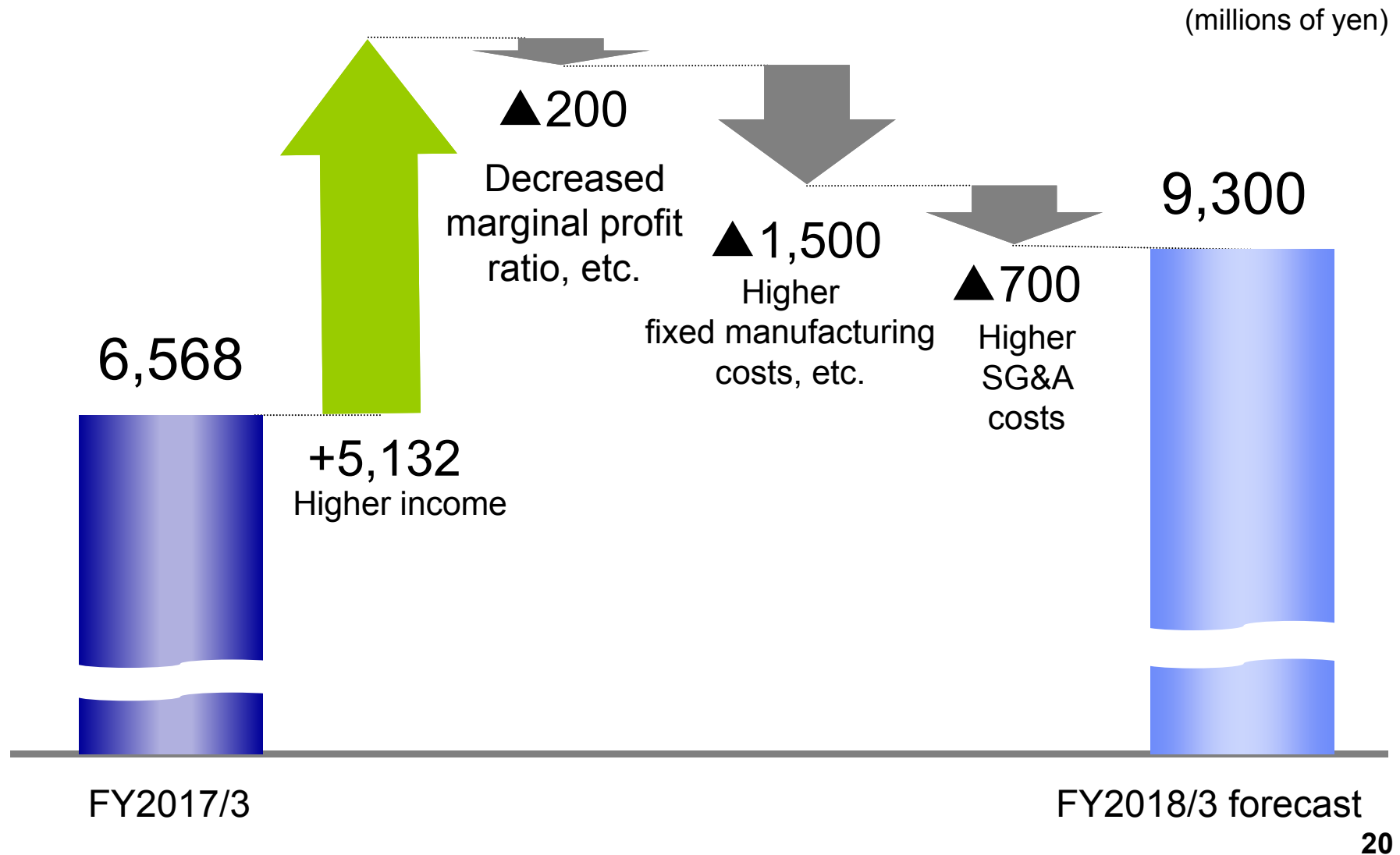
(millions of yen)



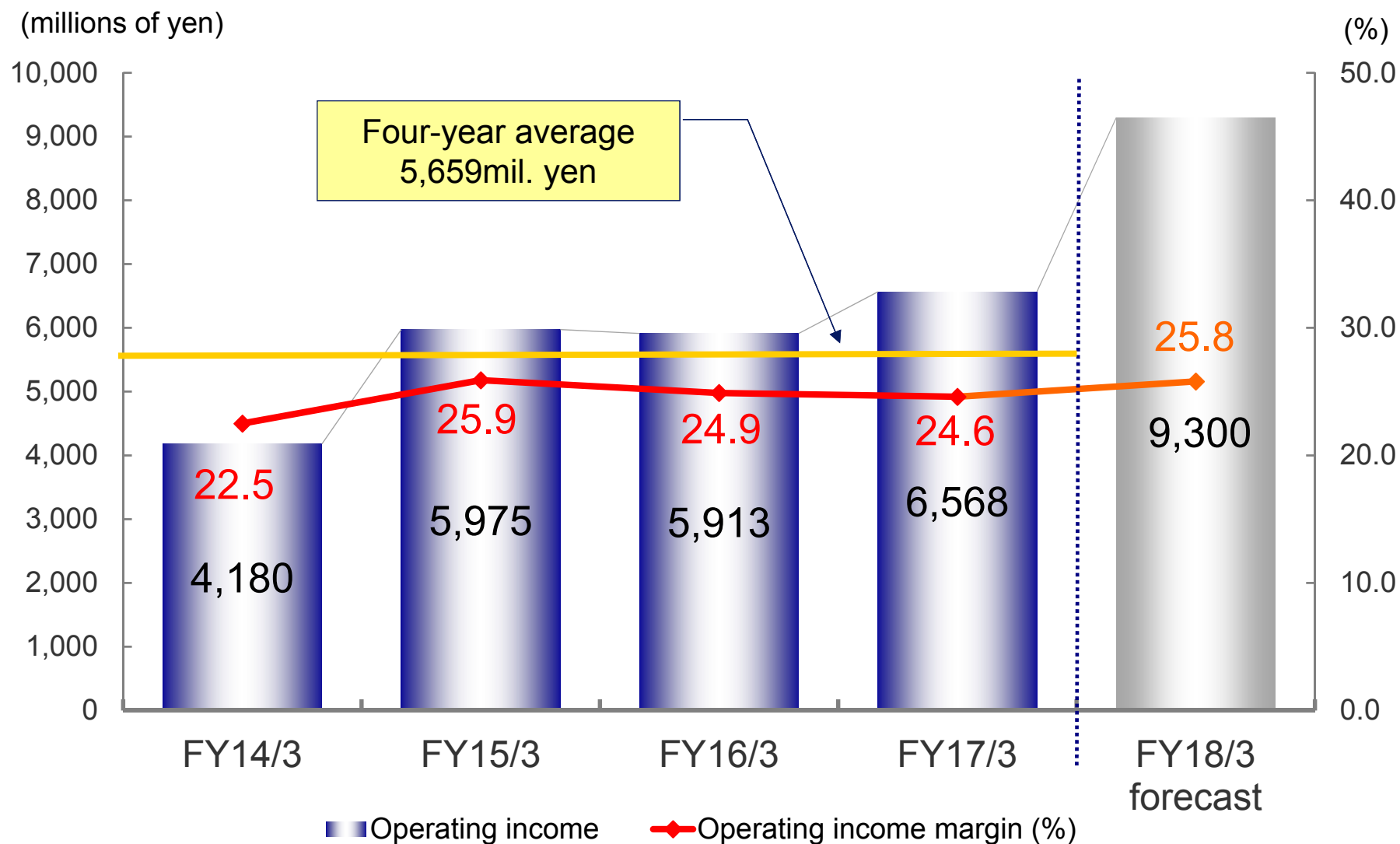
Non-consolidated Sales by application (by half-year)



Factors in year-on-year change in non-consolidated operating income (FY 2018/3 forecast)



Trends in operating income (non-consolidated)

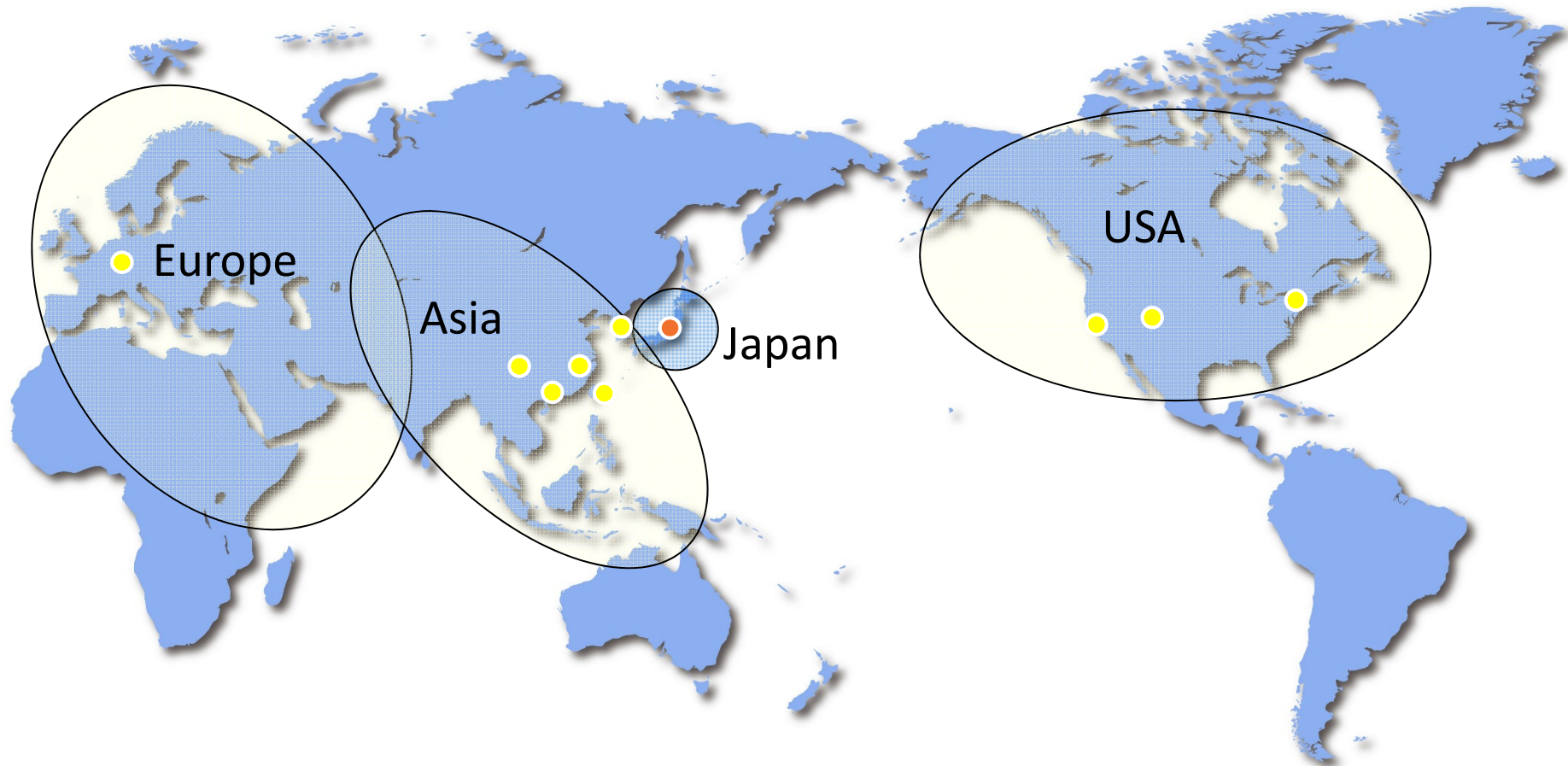


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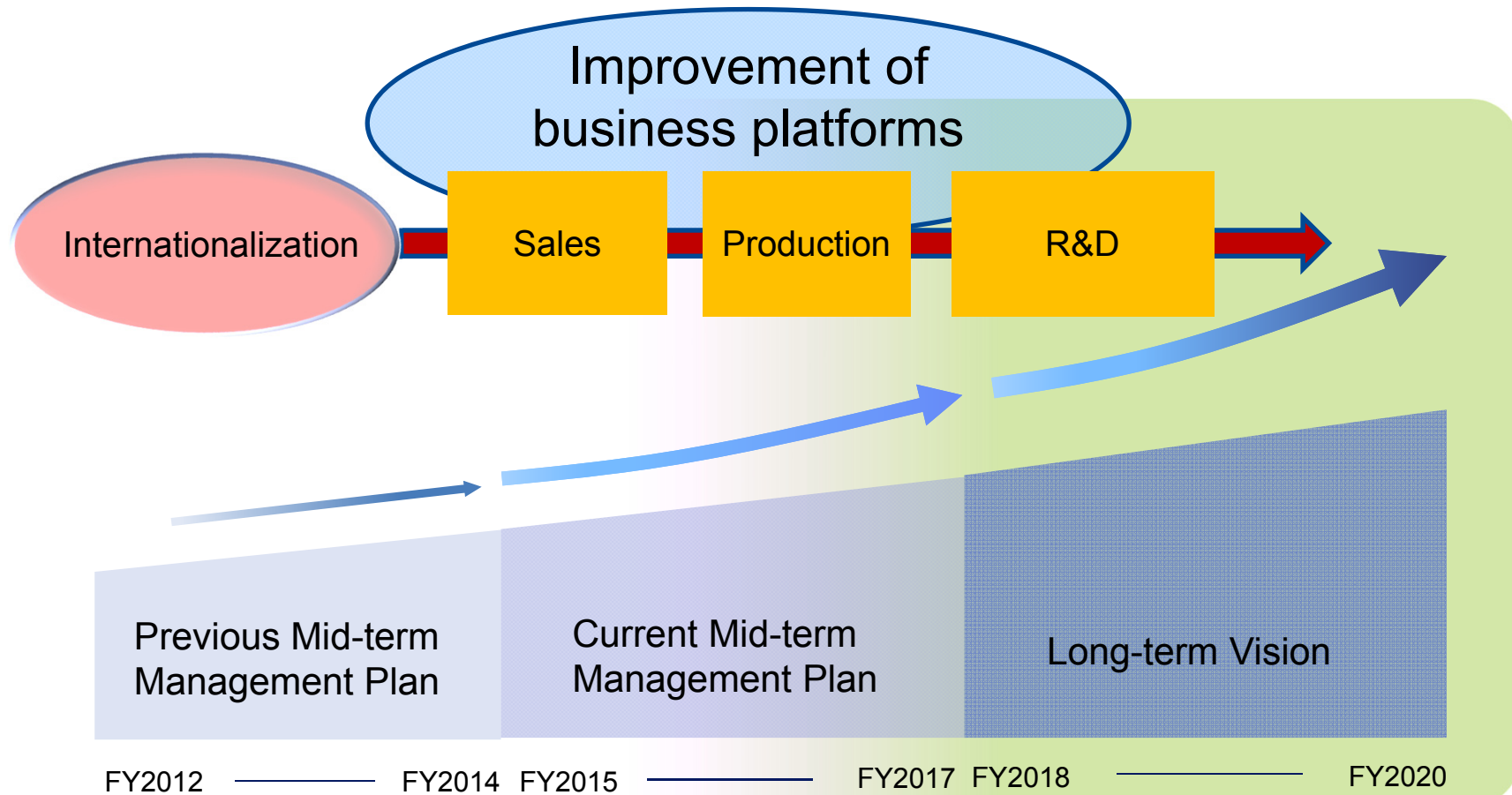
Future Outlook

1. Four Global Bases

Subsidiarization of Harmonic Drive AG ➡ Four global bases



1.1 Significance of HDAG Subsidiarization



1.2 HDAG Profile

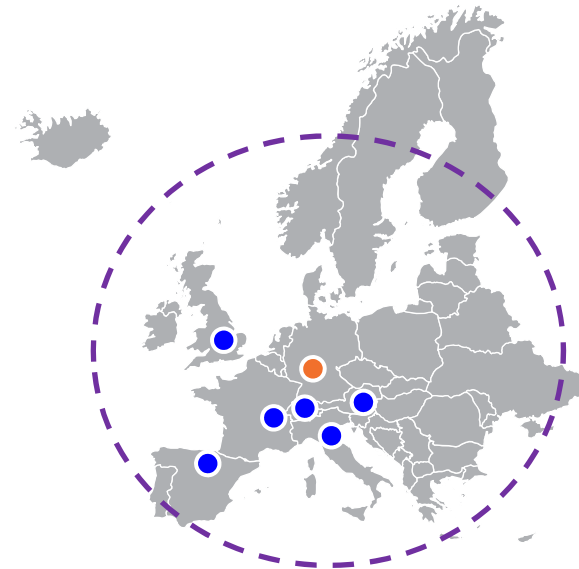
Outline of Harmonic Drive AG subsidiarization

Company name	Harmonic Drive AG
Location	Germany
Founded	October 1970
Sales	94.8 million euro (as of the fiscal year ended December 31, 2016)
Business domain	Development and production of speed reducers and mechatronics products; sales to Europe, the Near and Middle East, Africa, India, and South America
Sales subsidiaries	UK, Spain, Italy, and others
No. of staff	297 (as at the end of 2016)
Main clients	ABB, KUKA, Universal Robots, and others

ABB

KUKA

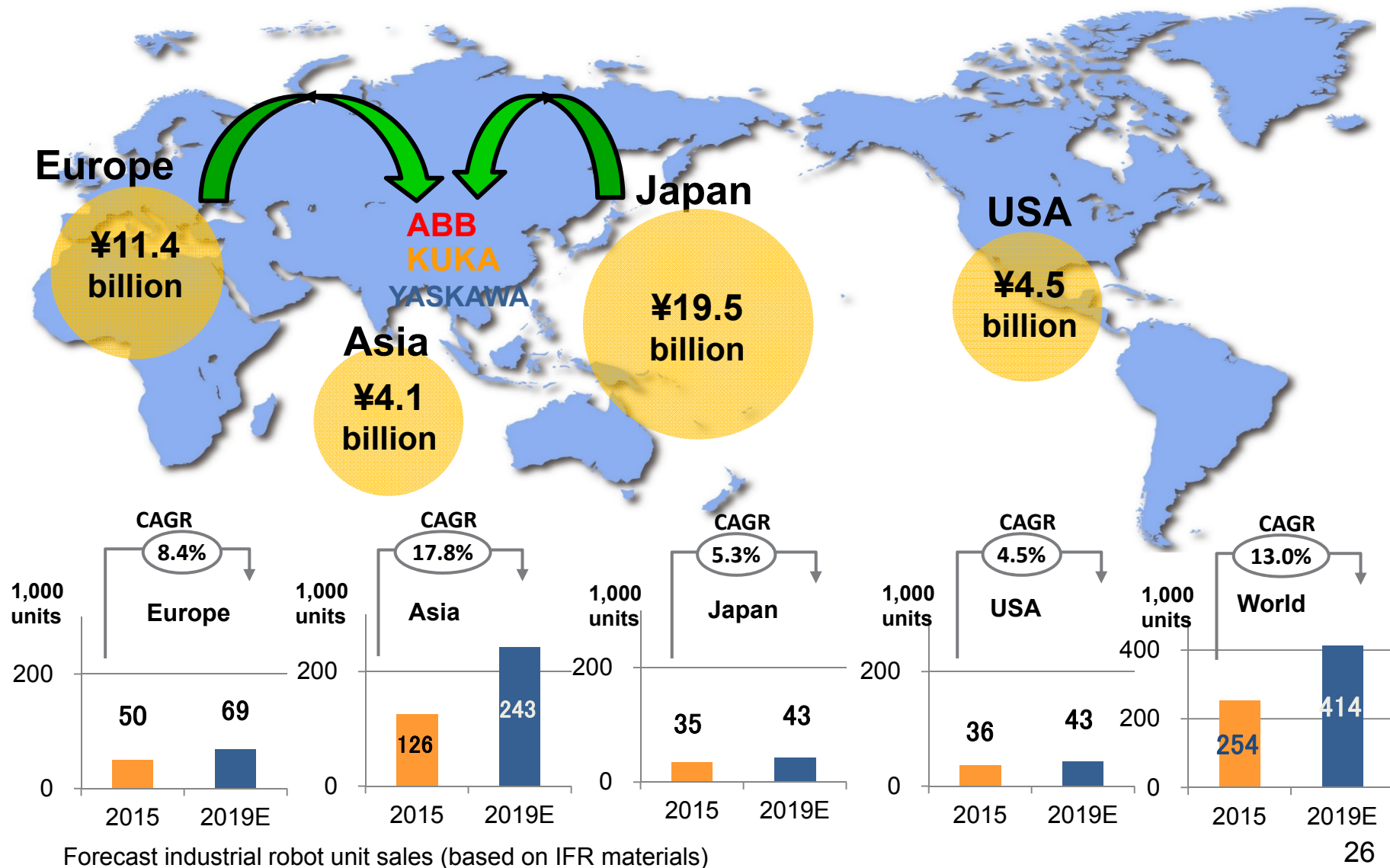
**UNIVERSAL
ROBOTS**



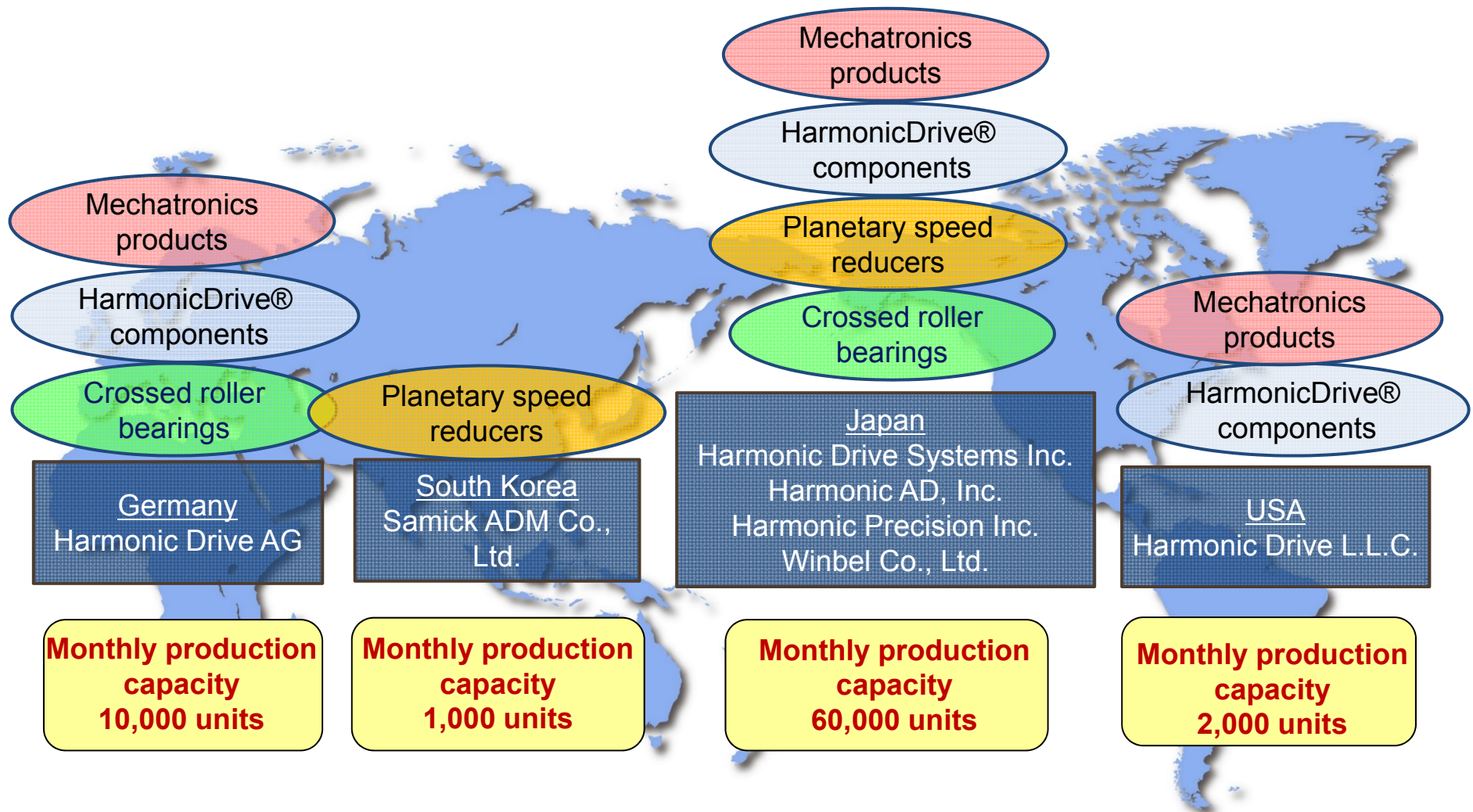
- Excellent customer base, including such major European manufacturers as ABB, KUKA, and Universal Robots
- Added boost from Industry 4.0

2.1 Sales Structure (FY2016 Sales)

Four global bases to respond to global customer needs

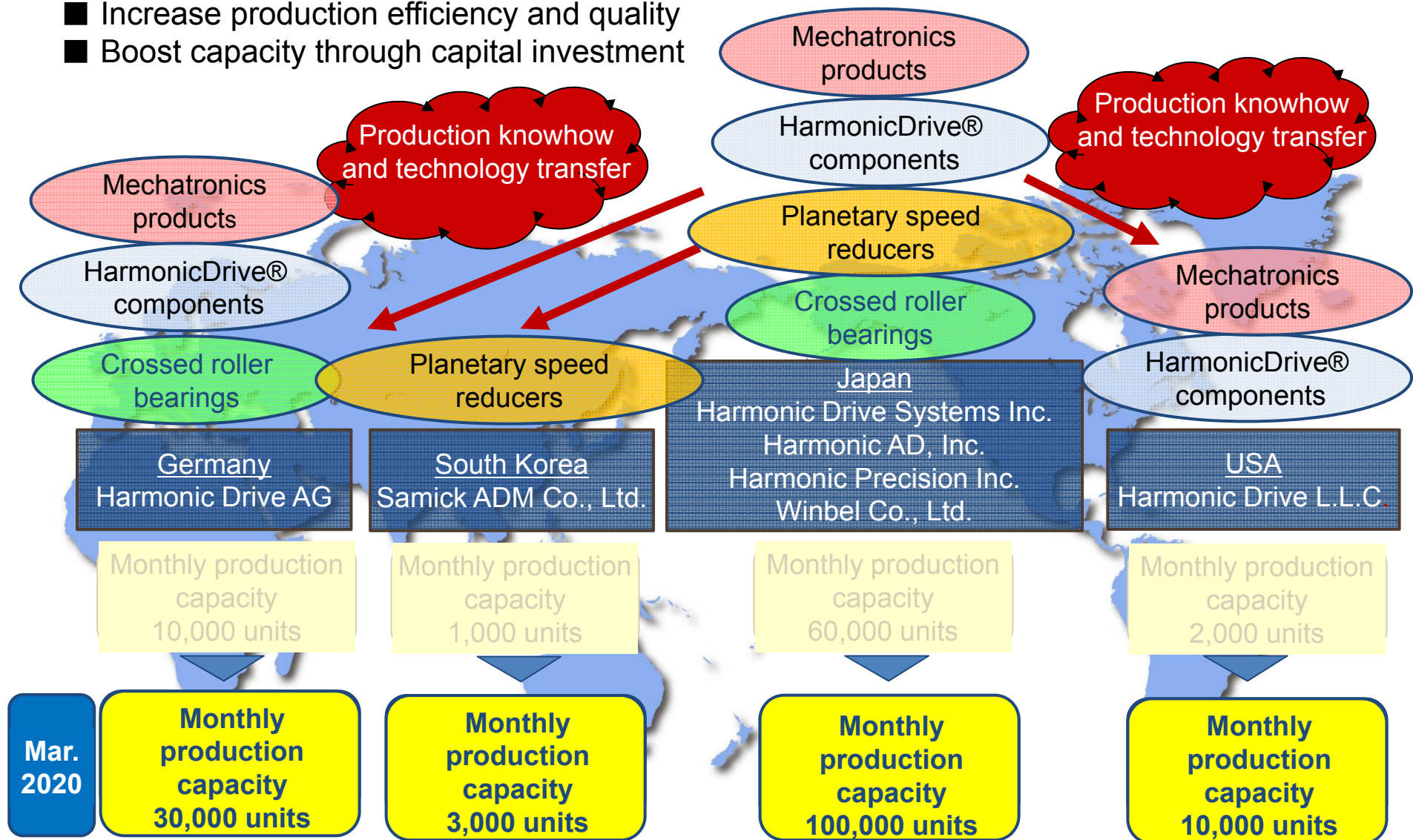


2.2.1 Production Structure (Current)



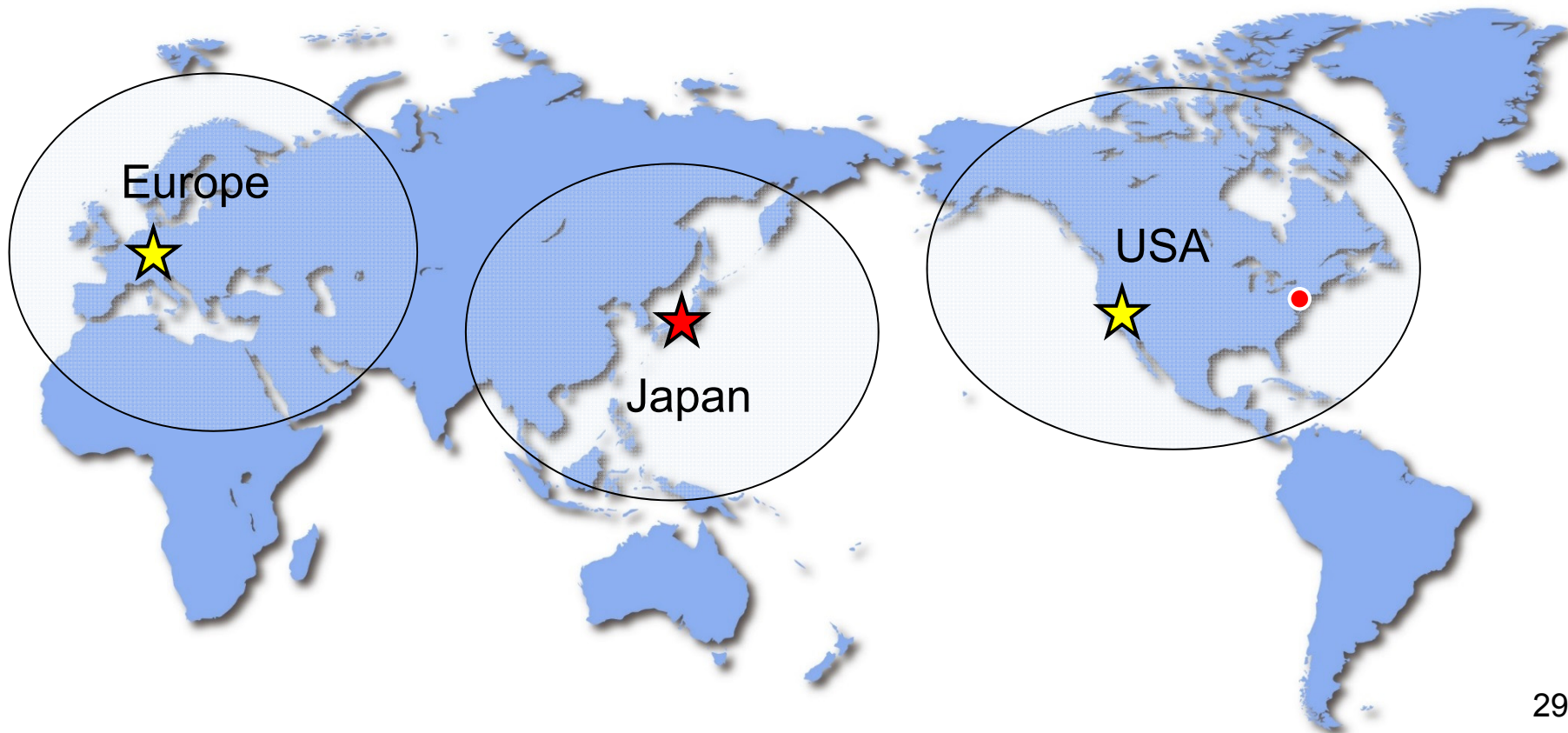
2.2.2 Production Structure (Future)

- Increase production efficiency and quality
- Boost capacity through capital investment



2.3 Development Structure

- Worldwide development and information-gathering
 - Open a Silicon Valley office
 - Find new mechanisms
 - Common themes (new materials, lubricants, stress analysis, etc.)

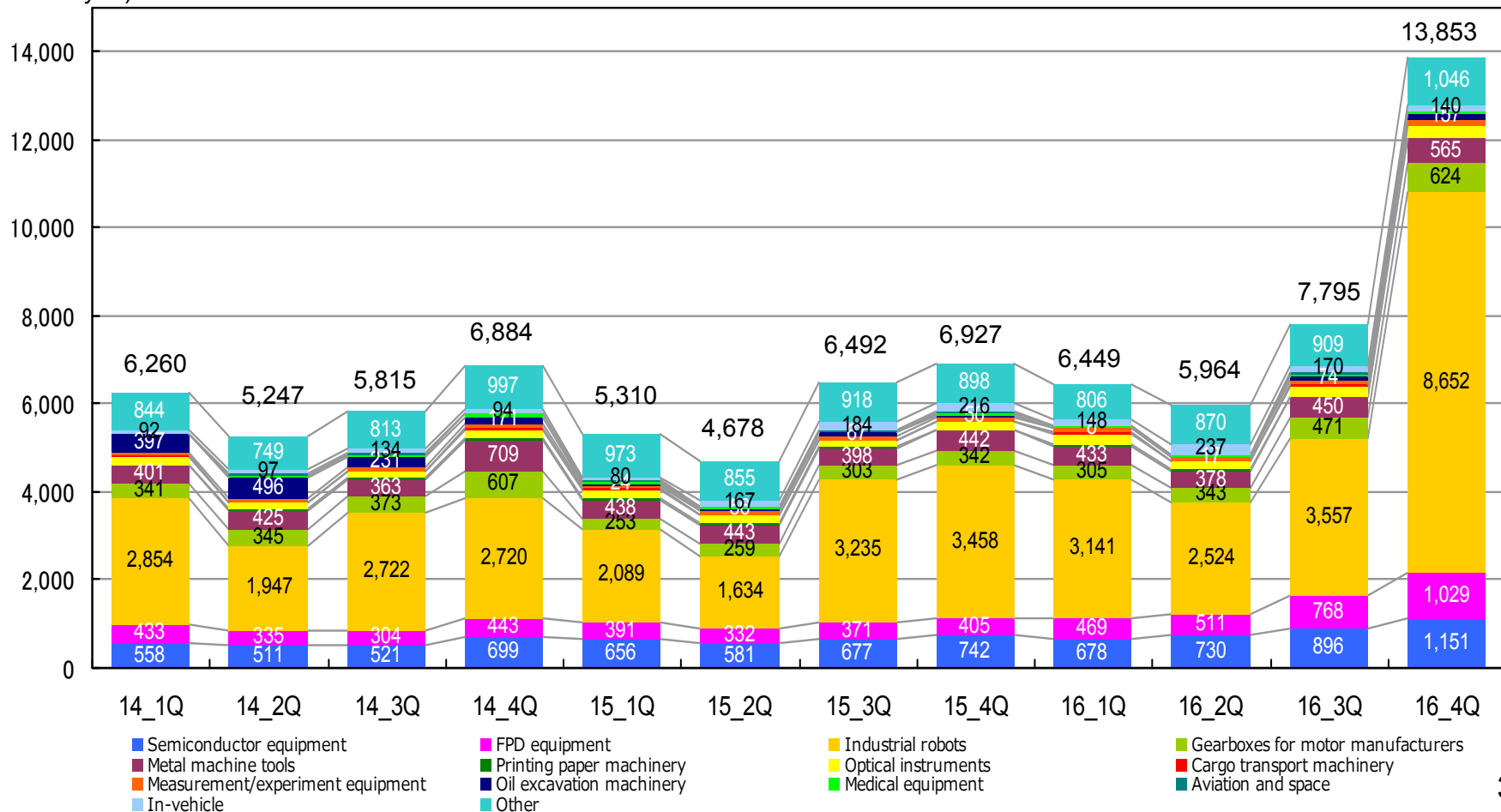


3. Bookings Trends

Swift rise in bookings since January 2017

Bookings by application field (non-consolidated; quarterly value)

(millions of yen)



4. Investment in Production Capacity

- Expand existing capacity (2 shift/3 shift system, improved productivity), invest in expanding Hotaka Plant facilities
- Acquired land for a new plant in Matsumoto City (Nagano)

Hotaka Plant
(Azumino City, Nagano)



- ¥1.5 billion investment in machinery for new line
- Increasing production since March 2017 (50,000→66,000 units per month)

Planned new plant
(Matsumoto City, Nagano)

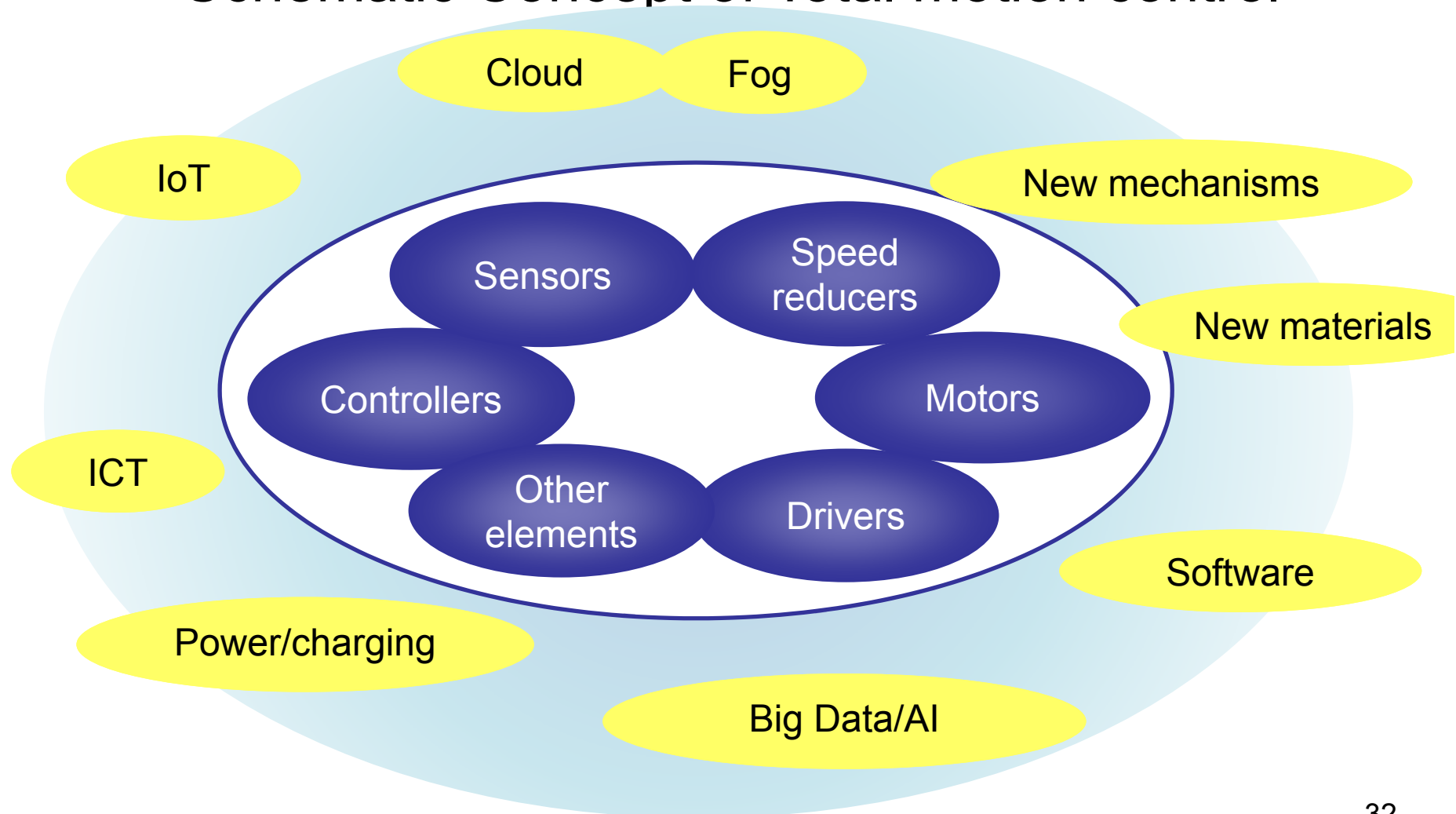


- Detailed design of new factory block underway
- Increase CRB* production capacity to 100,000 units/month
- Set up as a new production base to supplement the Hotaka Plant

*CRB = Crossed Roller Bearing 31

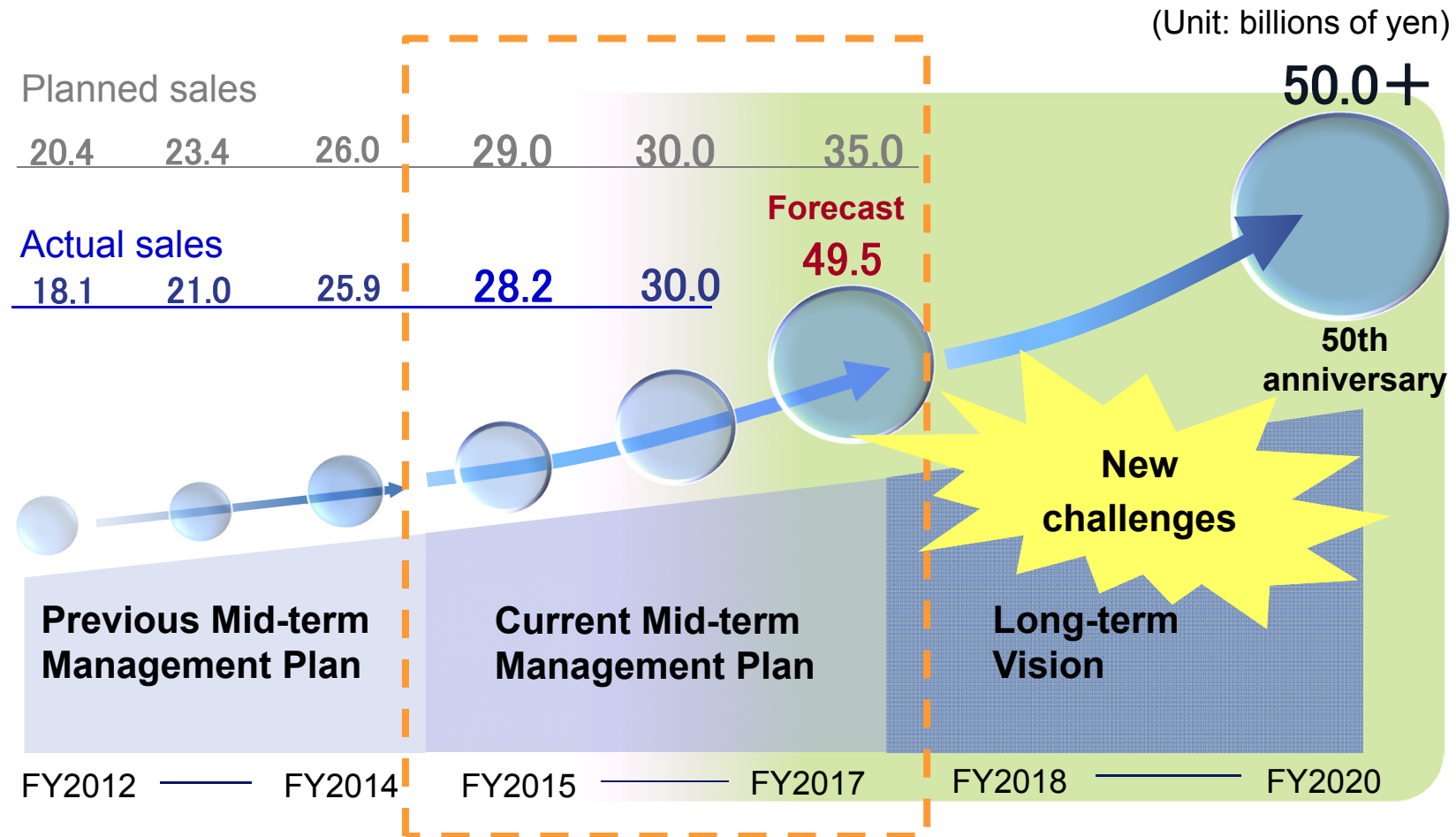
5. Total Motion Control Ecosystem

Schematic Concept of Total motion control



6. Further Growth

Sustain growth into the future



7. New Challenges

- ◇ Expand production capacity
- ◆ Don't count on current record high sales – it's short term.
Be aware there always involves a certain fluctuating factors –
in SEMI, FPD/OLED even Industrial Robot as well.
- ◆ Serious competitor(s) as a reality
- ◆ Can not depend solely on long term relationship based upon
mutual trust built on our experiences and QCDS.
- ◆ Can these risks be absorbed simply through scale expansion?
- ◇ Continuous effort to diversify applications (medical equipment,
food industry, pharmaceuticals etc.)
- ◇ Diligent work in R&D; New gear mechanism, New Materials,
New production method...

The performance targets and other numerical data presented herein are forecasts based on information available to the HDS Group at the time this material was prepared, and are subject to the influence of uncertainties including those in the economic and competitive environment. Actual performance may therefore differ materially from the forecasts given in this material.

Harmonic Drive Systems Inc.

For more information:

Please contact us as follows for material contents and investor information of all kinds.

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