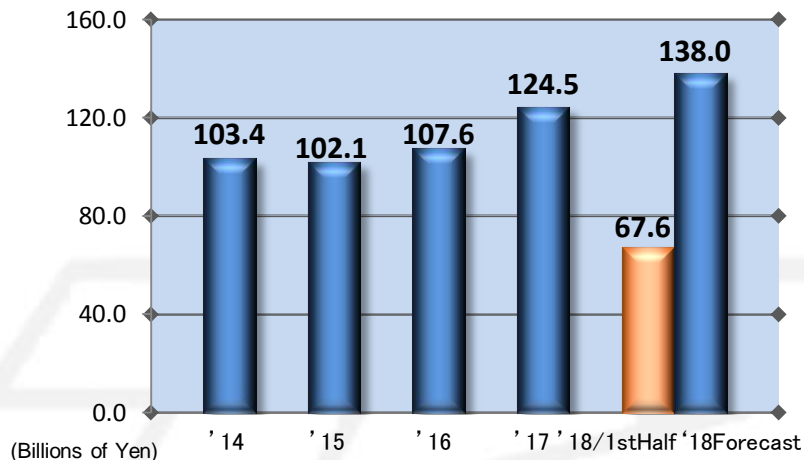




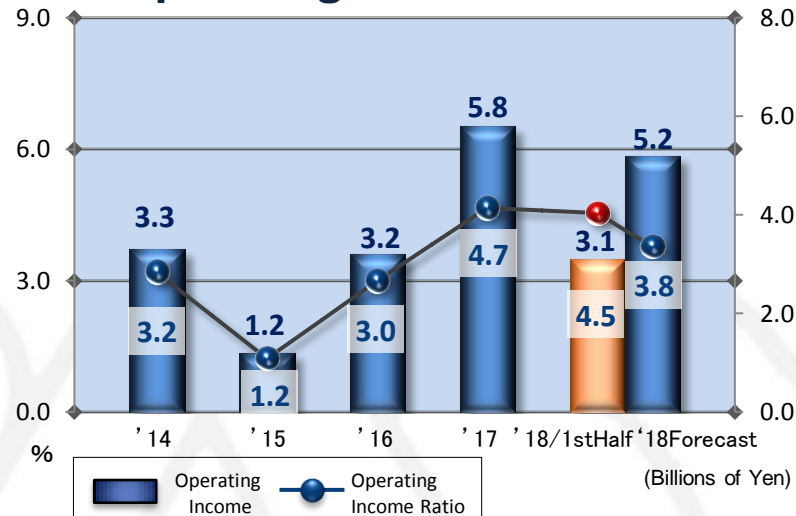
Financial Results Briefing for 2nd Quarter of FY 2018

Financial Results (Consolidated)

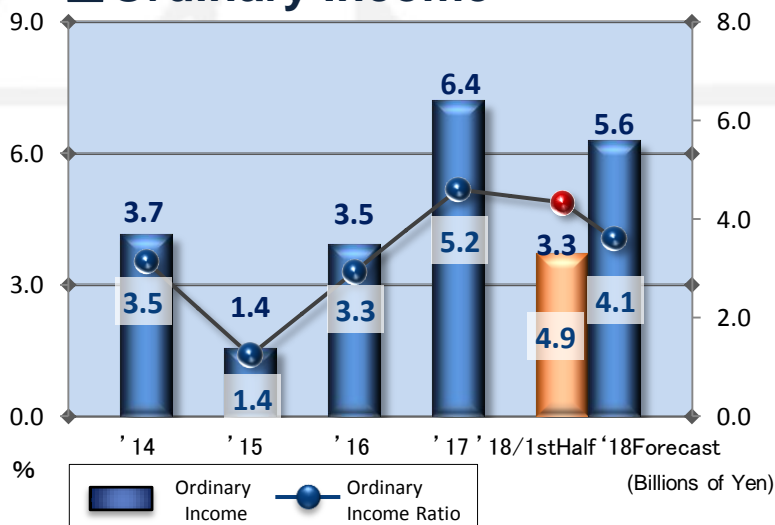
Net Sales



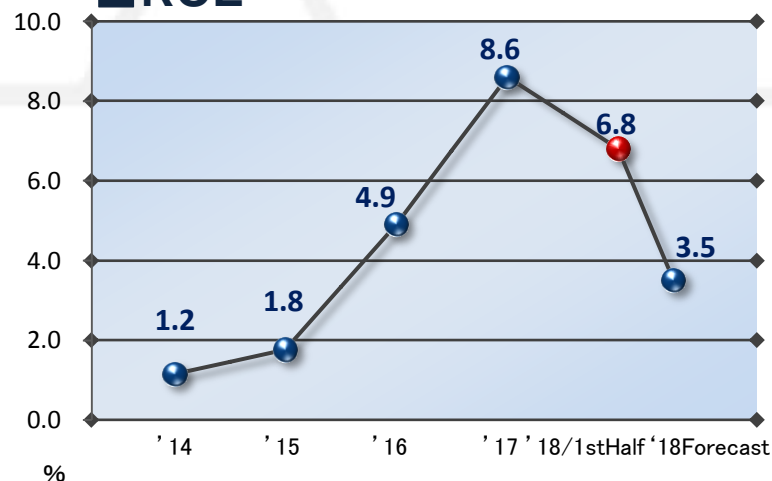
Operating Income



Ordinary Income



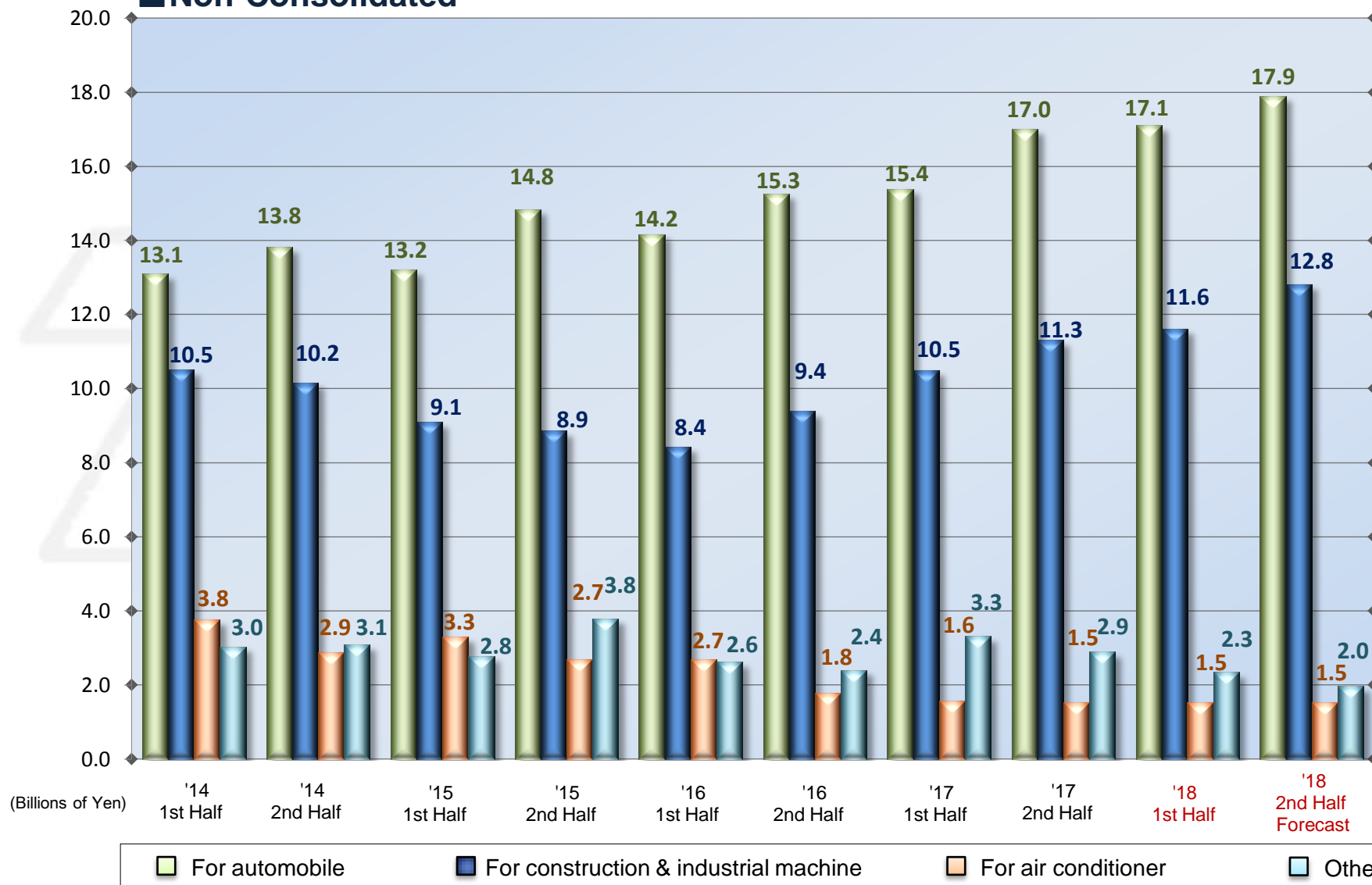
ROE





Semi Annual Sales by Application (Non-Consolidated)

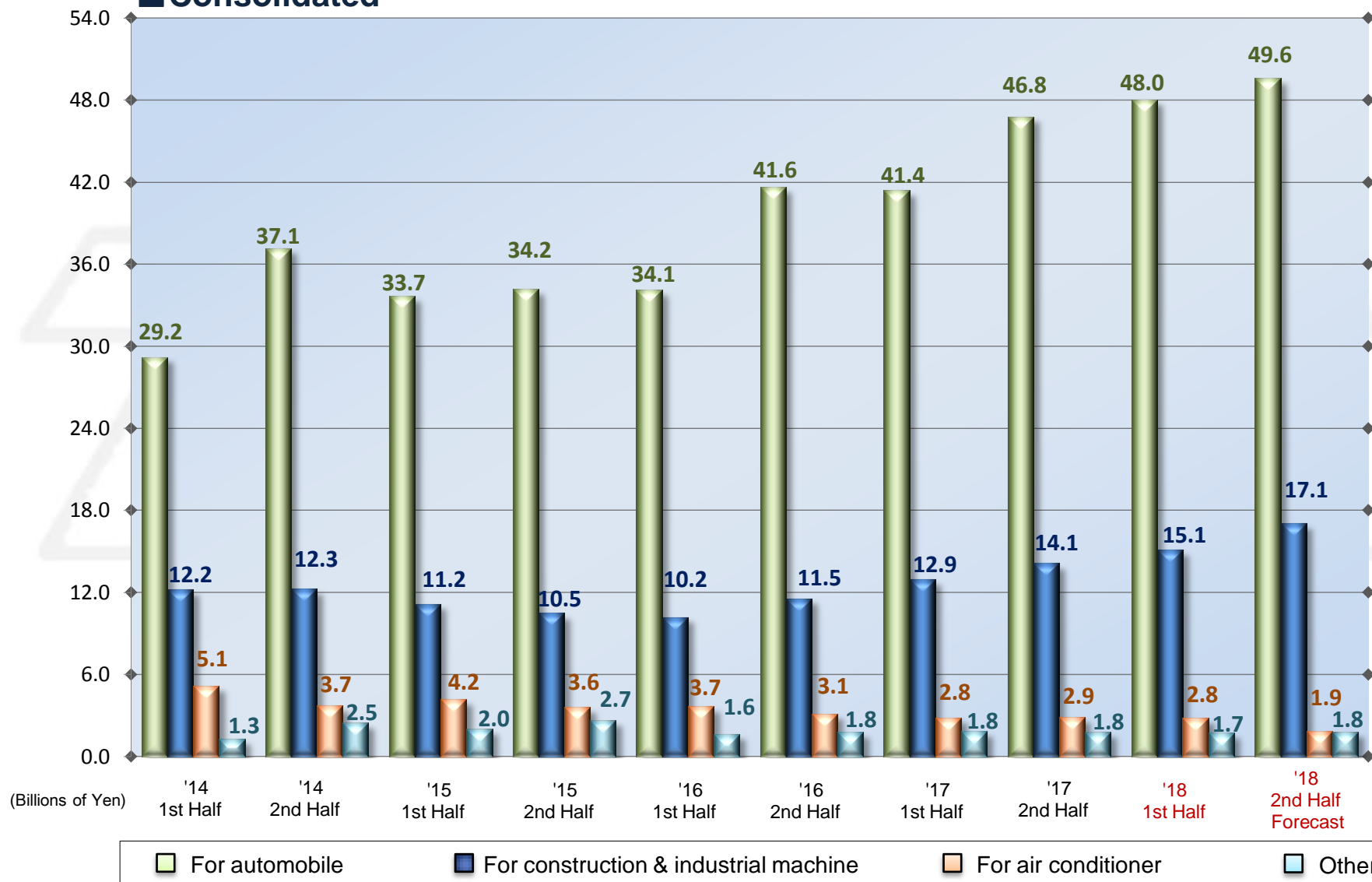
■ Non-Consolidated





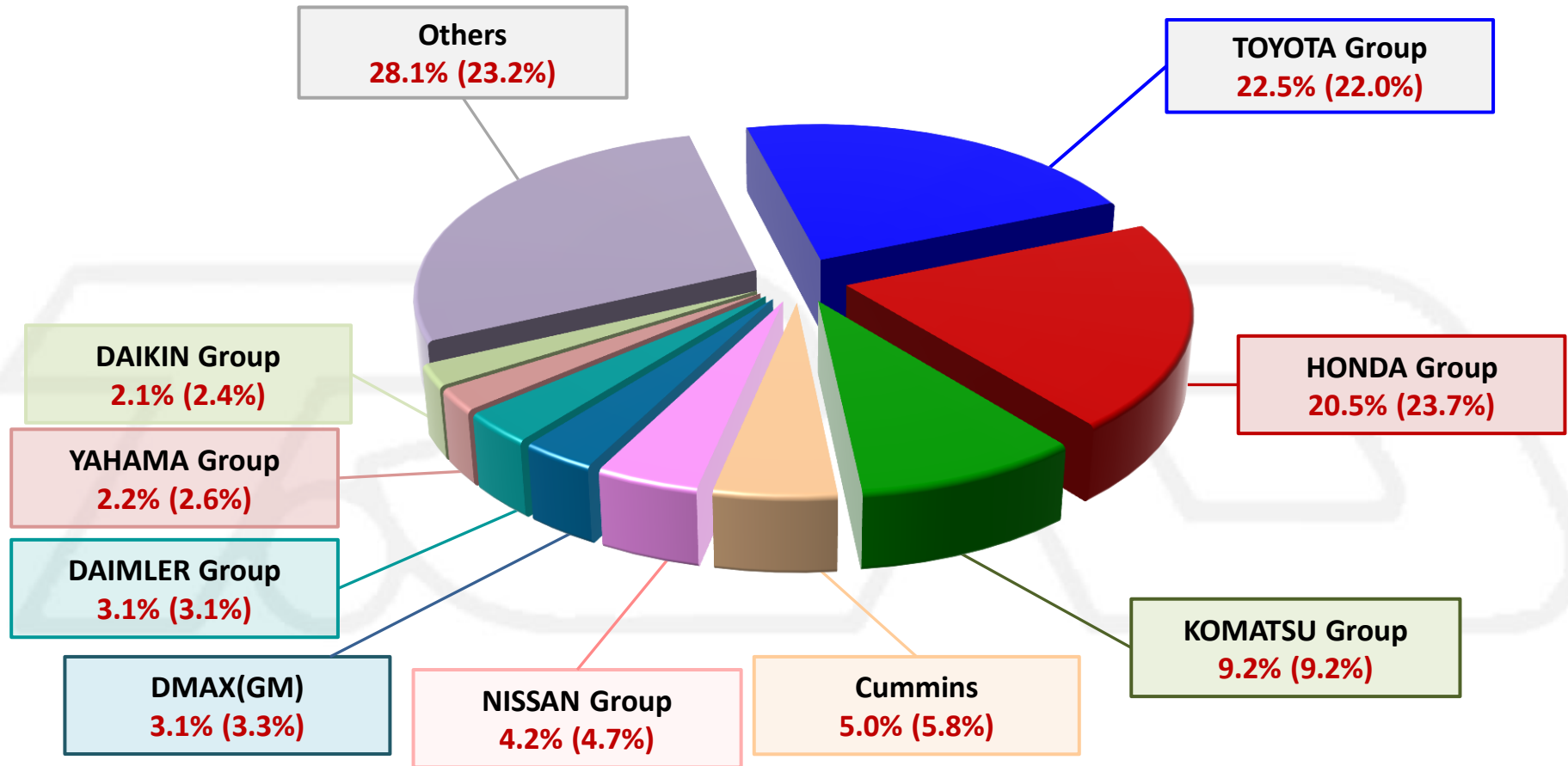
Semi Annual Sales by Application (Consolidated)

■ Consolidated





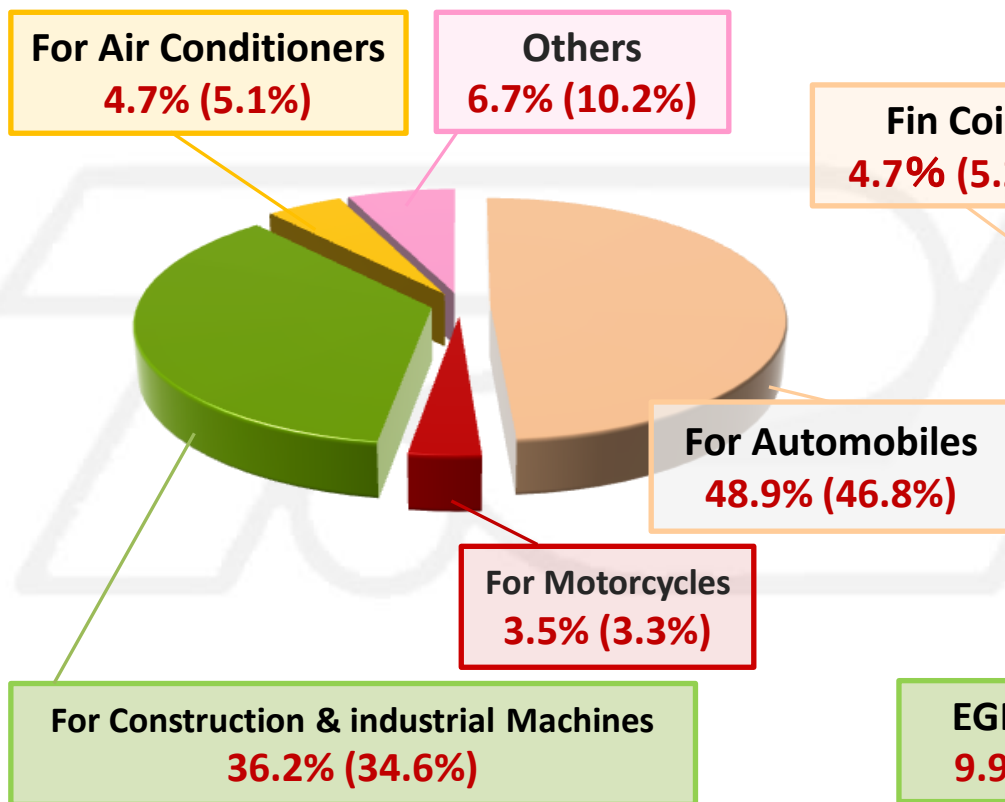
Sales by Customer Groups in 1st Half of FY2018(Consolidated)



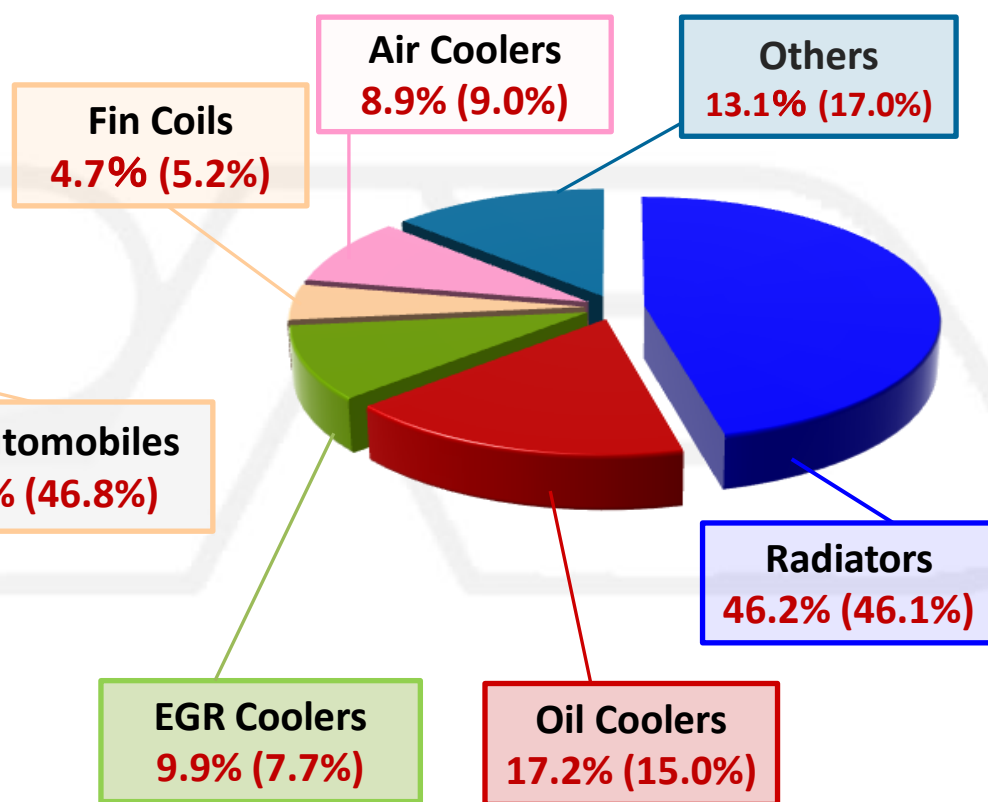
Our independent mobility and advanced technologies are appreciated by international industry leaders.

*Figure in parentheses is share of sales in the same period of the previous year.

Sales by applications



Sales by Product types



Our products are applicable to various applications that are not partial to the specific industries or products.

*Figure in parentheses is share of sales in the same period of the previous year.



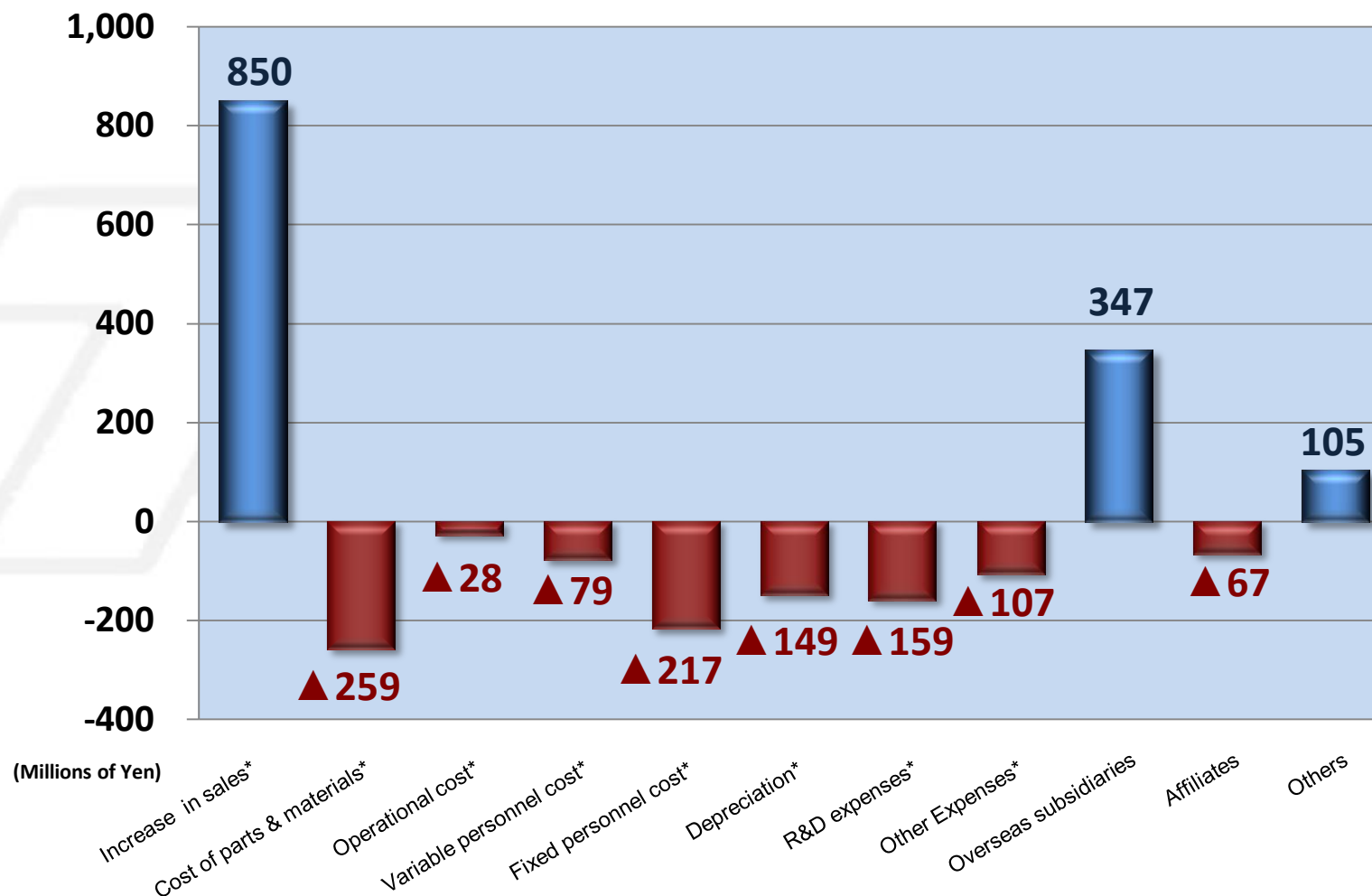
Financial Results and Forecast

(Billions of Yen)

		FY2017				FY2018				Increase, Decrease (-)			
		1st Half Results		FY2017 Results		1st Half Results		FY2018 Forecast		'18/1st Half-'17/1st Half		'18Forecast-'17Results	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Net Sales	Consolidated	58.9	100.0	124.5	100.0	67.6	100.0	1,380	100.0	8.7	14.7	13.5	10.9
	Non-Consolidated	30.9	100.0	63.5	100.0	32.5	100.0	66.7	100.0	1.6	5.3	3.2	5.0
Operating Income	Consolidated	2.7	4.6	5.8	4.7	3.1	4.5	5.2	3.8	0.4	14.5	-0.6	-10.2
	Non-Consolidated	0.8	2.6	0.6	1.0	0.4	1.1	0.6	0.8	-0.5	-55.4	-0.1	-9.2
Ordinary Income	Consolidated	3.1	5.2	6.4	5.2	3.3	4.9	5.6	4.1	0.2	7.8	-0.8	-13.1
	Non-Consolidated	2.8	9.2	4.0	6.3	1.7	5.1	3.2	4.8	-1.2	-41.6	-0.8	-20.5
Profit attributable to owners of parent	Consolidated	1.5	2.5	3.7	3.0	1.5	2.3	1.6	1.2	0.1	5.0	-2.1	-56.7
	Non-Consolidated	2.0	6.6	2.7	4.3	1.2	3.7	0.1	0.1	-0.8	-41.6	-2.6	-96.3

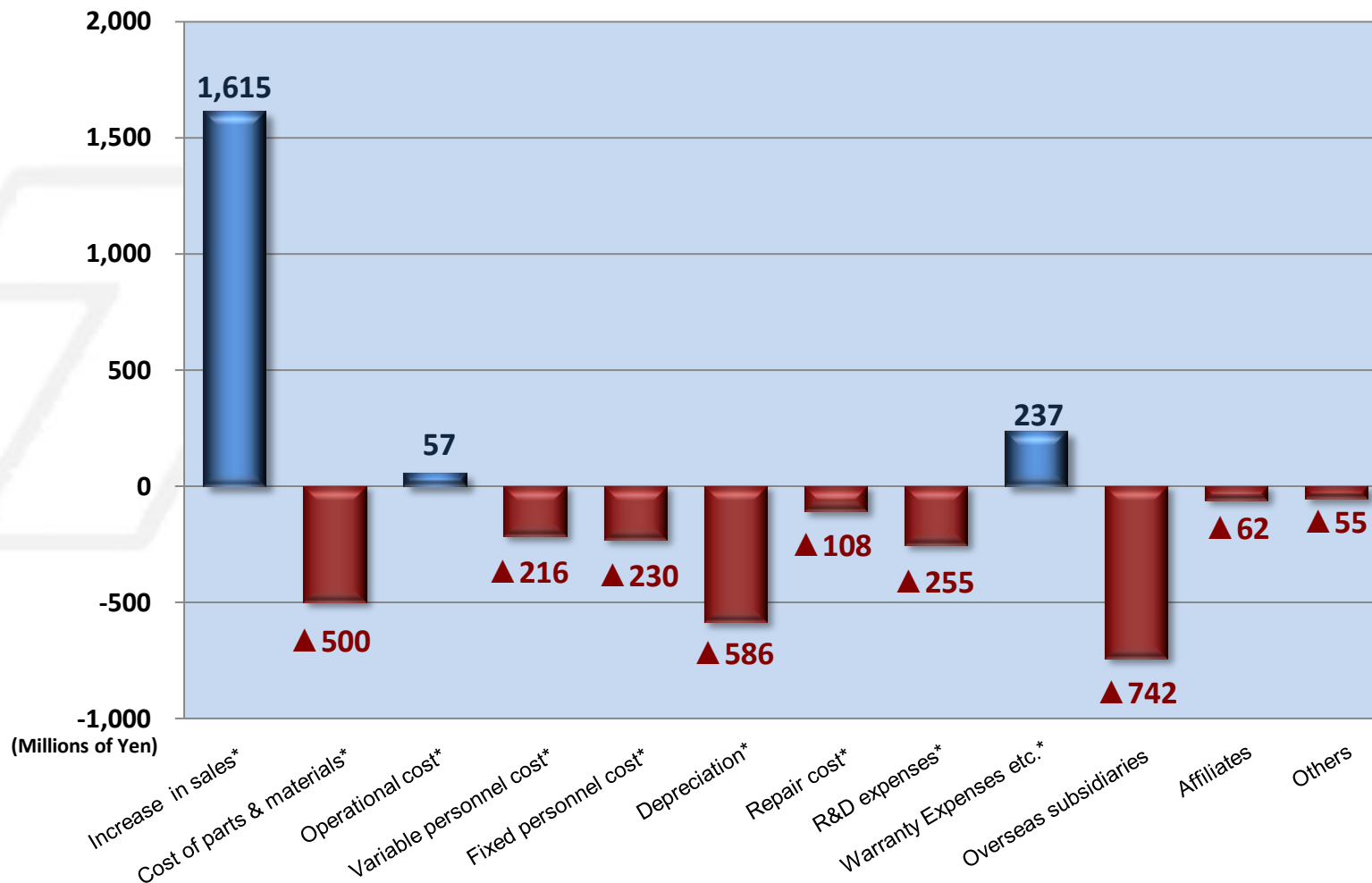
Analysis of Increase Factor of the Consolidated Ordinary Income (FY2018 1st Half vs. FY2017 1st Half)

Increase in the consolidated ordinary income by ¥237 million



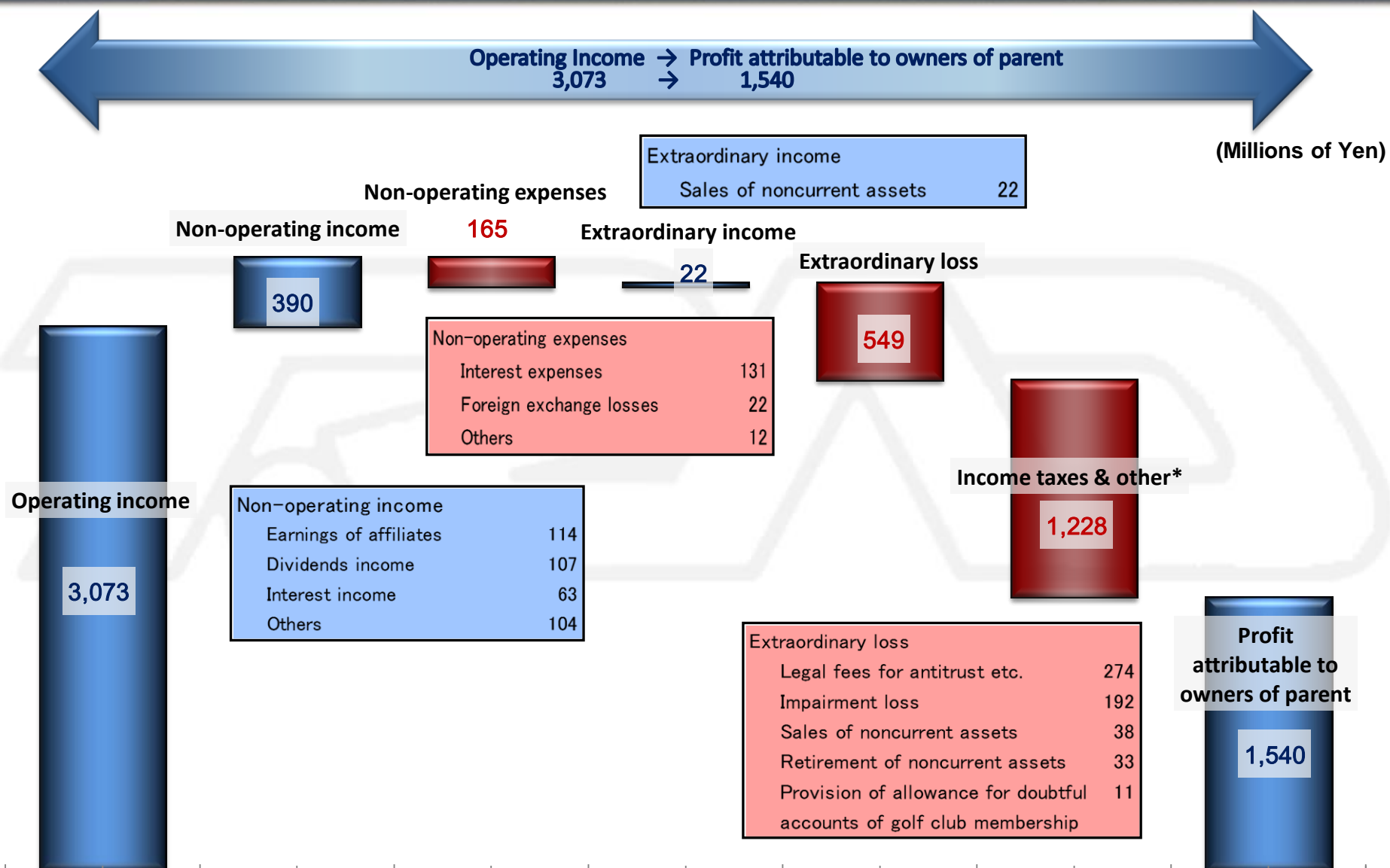
(*Fluctuation factor of non-consolidated)

Decrease in the consolidated ordinary income by ¥845 million



(*Fluctuation factor of non-consolidated)

Non-operating Income/Expenses and Extraordinary Income / Loss for 1st Half of FY2018(Consolidated)



* Income taxes & other include Profit attributable to non-controlling interests.



Global Network: Worldwide Business with 5 Regional Bases



● Subsidiaries

【North America】	【China】
T.RAD North America, Inc. (USA)	T.RAD (Zhongshan) Co., Ltd. (China)
Tripac International Inc. (USA)	T.RAD (Changshu) Co., Ltd. (China)
	Qingdao Toyo Heat-Exchanger Co., Ltd (China)*
【Asia】	【Europe】
T.RAD (THAILAND) Co., Ltd. (Thailand)	T.RAD Czech s.r.o. (Czech)
PT. T.RAD INDONESIA (Indonesia)	TRM LLC (Russia)
T.RAD(VIETNAM)Co., Ltd. (Vietnam)	T.RAD Sales .Europe GmbH (Germany)

● R&D center

North America T.RAD R&D Center (USA)
TACO/T.RAD R&D Centre (India)
T.RAD (Changshu) R&D Center Co., Ltd. (China)

● Joint Ventures

TORC Co.,Ltd. (Thailand)
TATA Toyo Radiator Ltd. (India)

*Subsidiary from October 2017



Business results of the segment

(Billions of Yen)

	Net Sales					Operating Income(Loss)				
	FY2016 Results	FY2017 Results	FY2018 Forecast	Increase /Decrease ('17 -'16)	Increase /Decrease ('18 Forecast -'17)	FY2016 Results	FY2017 Results	FY2018 Forecast	Increase /Decrease ('17 -'16)	Increase /Decrease ('18 Forecast -'17)
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount
Japan	51.5	56.9	59.7	5.3	2.9	0.8	0.6	0.5	-0.2	-0.1
USA	26.0	30.2	30.8	4.2 (-0.8)	0.5 (-1.7)	-0.3	0.7	-0.1	1.0 (-0.01)	-0.7 (-0.04)
Europe	3.9	4.1	3.9	0.3 (+0.4)	-0.2 (-0.0)	-0.3	-0.5	-1.2	-0.2 (-0.02)	-0.7 (+0.01)
Asia	15.6	17.1	18.4	1.4 (+0.4)	1.4 (-0.5)	1.0	2.1	2.6	1.1 (+0.03)	0.5 (-0.06)
China	9.6	15.2	24.2	5.6 (+0.3)	9.0 (-0.3)	1.7	2.7	3.1	1.0 (+0.06)	0.4 (-0.06)
Other	1.0	1.0	1.0	-0.0	-0.0	0.4	0.2	0.2	-0.2	0.0
Total	107.6	124.5	138.0	16.9 (+0.4)	13.5 (-2.5)	3.2	5.8	5.2	2.6 (+0.05)	-0.6 (-0.14)

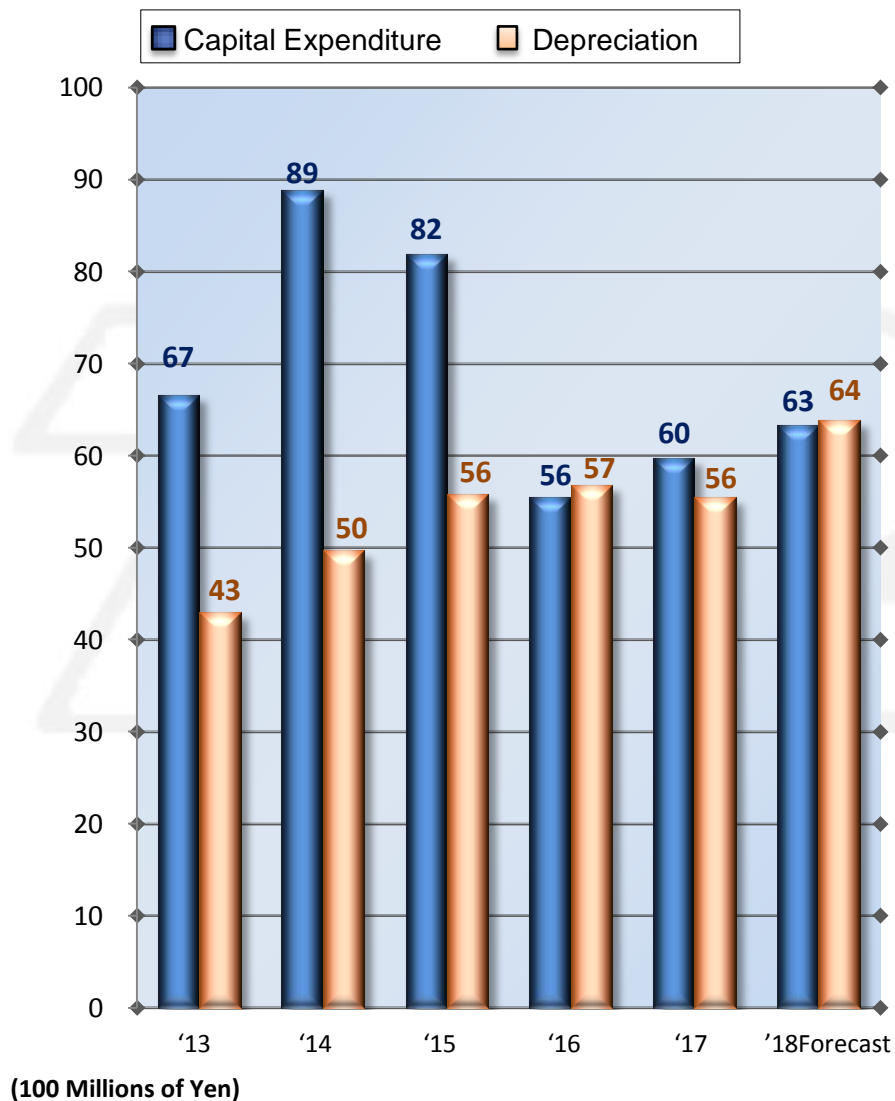
※Europe(Czech, Russia, Germany), Asia(Thailand, Indonesia, Vietnam), Other(The other Subsidiaries in Japan)

※Increase/Decrease figures in parentheses are the amount for effect of foreign exchange fluctuations

※Increase/Decrease('18Forecast-'17) figures in China segment includes the amount of Qingdao Toyo Heat Exchanger Co., Ltd.'s fluctuations(Net sales 6.3 billions of yen, Operating Income 0.1 billions of yen)

Exchange Rate (Dec.2017⇒Dec.2018 Forecast) USD: 113.05⇒106.75, THB: 3.46⇒3.41, CNY: 17.30⇒16.94,

CZK: 5.16⇒5.18, IDR: 0.0083⇒0.0078, VDN: 0.0050⇒0.0047, EUR: 134.95⇒131.46, RUB: 1.96⇒1.82



Capital Expenditure by region (100 millions of Yen)

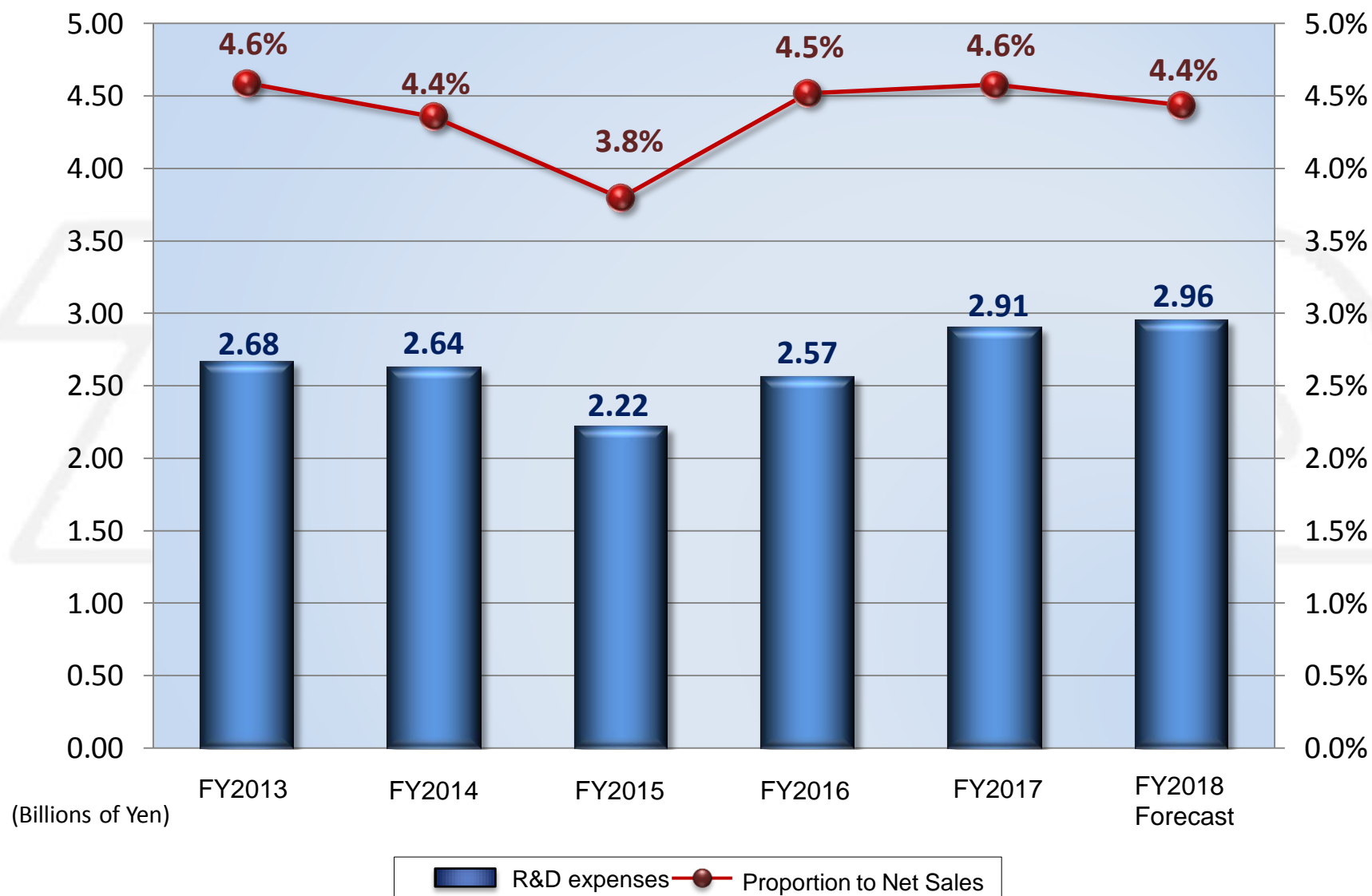
	FY2017		FY2018 Forecast	
	Capital Expenditure	Share	Capital Expenditure	Share
Japan	37.4	62.6%	39.5	62.4%
North America	11.1	18.5%	10.1	15.9%
Europe	4.3	7.3%	5.0	7.9%
China	2.0	3.3%	2.7	4.2%
Thailand	2.6	4.4%	3.9	6.2%
Indonesia	1.9	3.2%	1.7	2.6%
Vietnam	0.4	0.7%	0.5	0.8%
Total	59.8	100.0%	63.3	100.0%

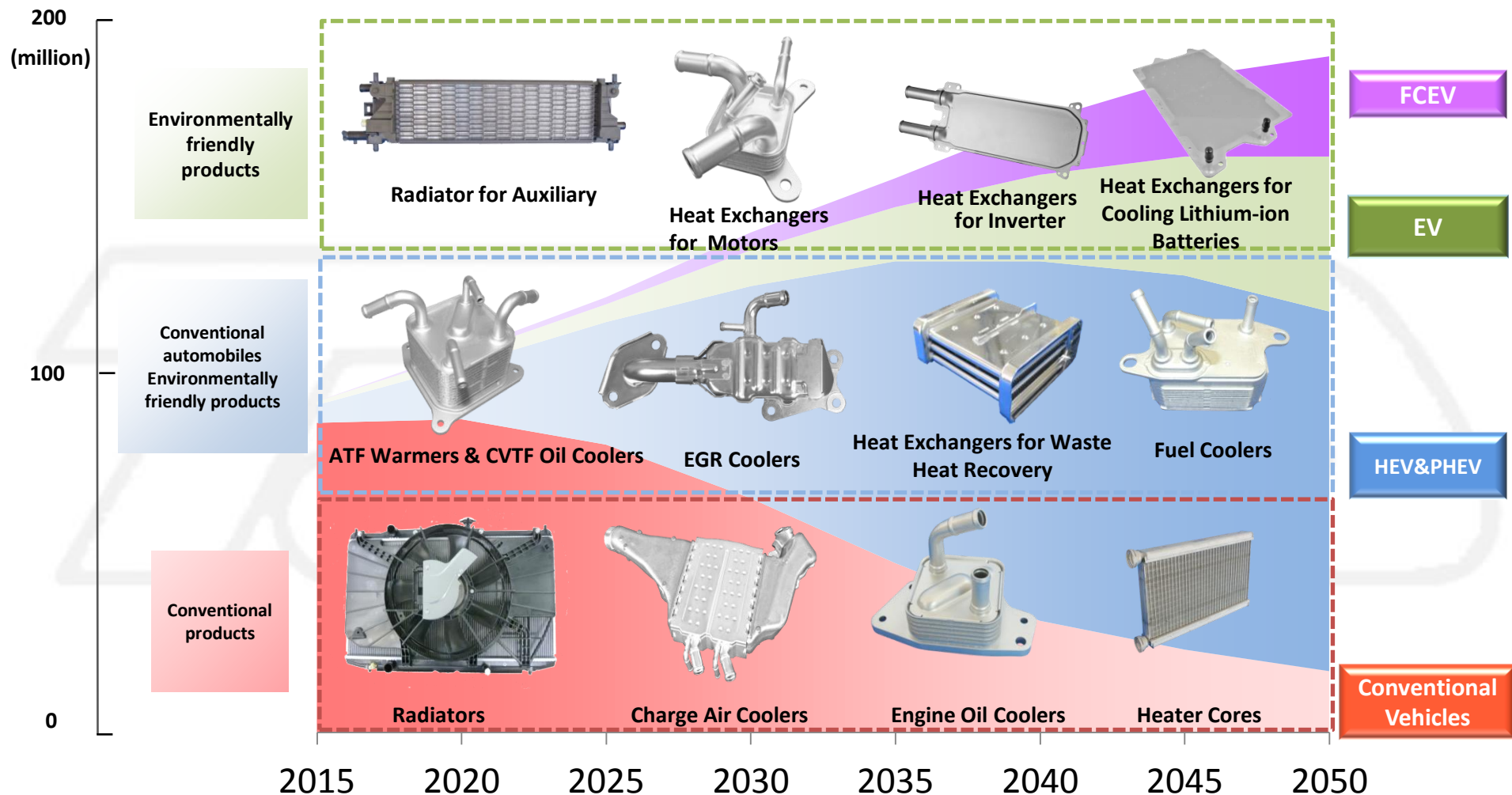
Depreciation by region (100 millions of Yen)

	FY2017		FY2018 Forecast	
	Depreciation	Share	Depreciation	Share
Japan	27.3	49.2%	35.3	55.2%
North America	11.3	20.3%	11.0	17.2%
Europe	1.5	2.7%	2.8	4.4%
China	4.5	8.1%	5.8	9.1%
Thailand	5.1	9.3%	3.8	5.9%
Indonesia	4.0	7.1%	3.7	5.8%
Vietnam	1.9	3.4%	1.5	2.4%
Total	55.5	100.0%	63.9	100.0%



R&D Expenses (Non-Consolidated)





Development of heat exchangers corresponding to the change of the markets and customers' needs



Automobile Components

Name	Function
Radiators	To cool cooling water increased in temperature by the engine.
Charge Air Coolers	To cool intake air increased in temperature by being pressurized by a supercharger such as a turbocharger.
Engine Oil Coolers	To cool engine oil increased in temperature by the engine
Heater Cores	To heat indoors by allowing a part of cool cooling water increased in temperature to flow.
ATF Warmers & CVTF Oil Coolers	To heat lubricants for AT and CVT during warming-up and cool down at high temperatures.
EGR Coolers	To cool high-temperature exhaust gas when re-circulating a part of exhaust gas.
Heat Exchangers for Waste Heat Recovery	To recover heat within exhaust gas in HEV and reuse for heating and quick warming of the engine.
Fuel Coolers	To cool fuel increased in temperature by being pressurized by the fuel injection pump.
Radiator for Auxiliary	To cool cooling water increased in temperature by the heat exchanger for auxiliary equipment such as an inverter.
Heat Exchangers for Motors	To cool circulating oil for cooling the motor.
Heat Exchangers for Inverter	To cool inverters used in HEV and EV.
Heat Exchangers for Cooling Lithium-ion Batteries	To cool lithium ion batteries used in HEV and EV.



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