

# Six Months Ended September 30, 2021(FY2021) Result Briefing

November 15, 2021

GS Yuasa Corporation



## FY2021 2nd Quarter Financial Results

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# **FY2021 2nd Quarter Financial Results**

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# 1. Net Sales, Profits (Apr-Sep **Six Months** )

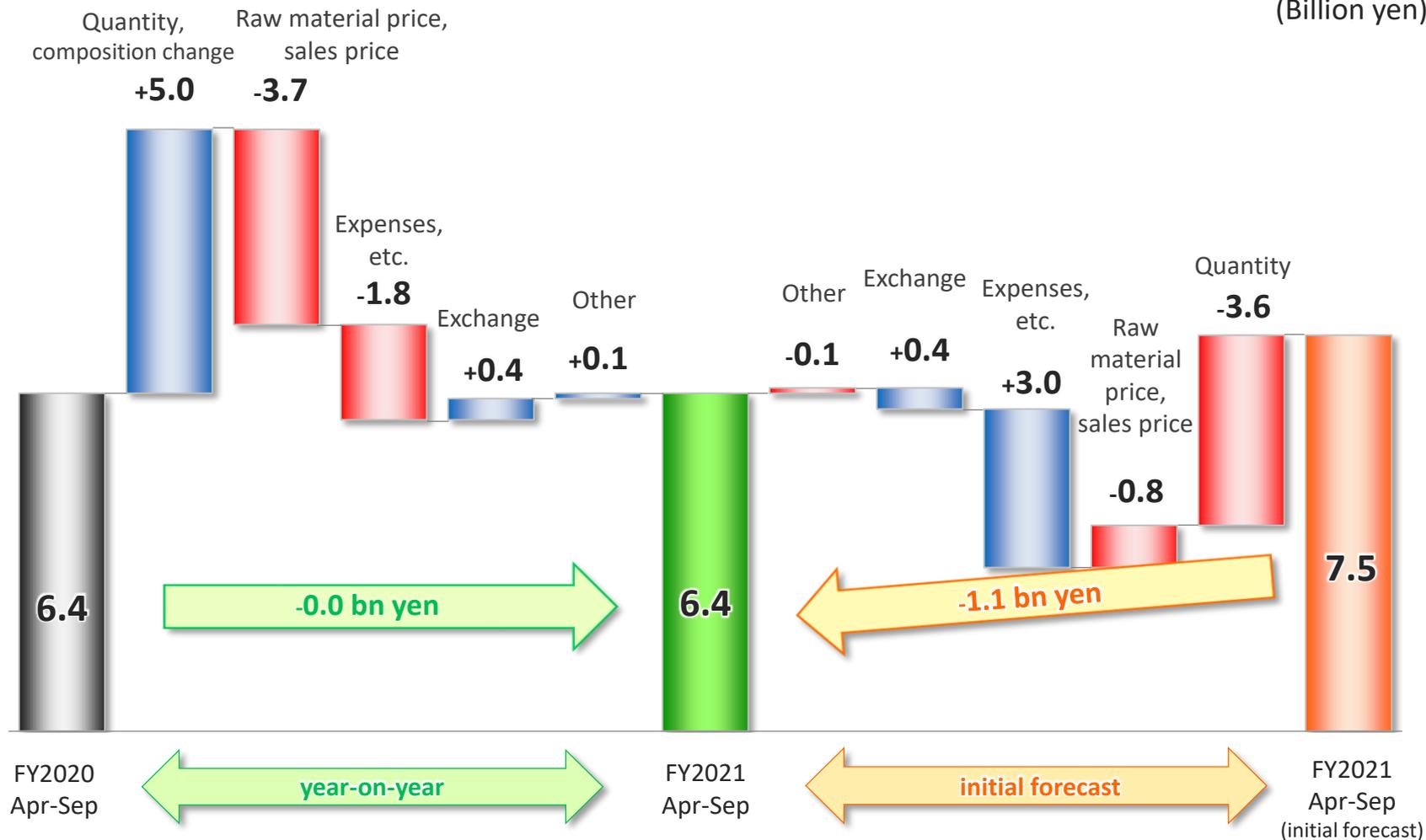


	FY2020 Apr-Sep (Six Months)	FY2021 Apr-Sep (Six Months)	Change	(Billion yen) (YoY%)
Net Sales	172.3	195.1	+22.8	(+13.2%)
Operating income (Operating income ratio)	5.3 3.1%	5.2 2.7%	-0.1 -0.4P	(-1.3%)
Operating income before amortization of goodwill (Operating income ratio before amortization of goodwill)	6.4 3.7%	6.4 3.3%	-0.0 -0.4P	
Ordinary income	6.5	6.6	+0.1	(+1.1%)
Extraordinary income	0.0	1.5	+1.5	
Extraordinary loss	3.1	1.7	-1.4	
Profit before income taxes	3.4	6.4	+3.0	
Income taxes	3.3	2.1	-1.2	
Profit attributable to non-controlling interests	0.0	2.2	+2.2	
Profit attributable to owners of parent (Net profit ratio)	0.1 0.1%	2.2 1.1%	+2.1 +1.0P	(-)
Profit attributable to owners of parent before amortization of goodwill (Net profit ratio before amortization of goodwill)	1.2 0.7%	3.2 1.6%	+2.0 +0.9P	
Domestic lead price quote	¥252,900/t	¥305,200/t	+¥52,300/t	
LME	1,773US\$/t	2,234US\$/t	+461US\$/t	
Exchange rate	¥106.32/US\$	¥110.10/US\$	+¥3.78/US\$	

# 1. Net Sales, Profits (Apr-Sep Six Months )

## Factors for Operating Income Change ( year-on-year / initial forecast comparison)

(Billion yen)



Note : Operating income is operating income before amortization of goodwill.

## 2. Segment Results (Apr-Sep **Six Months** )



(Billion yen)

		FY2020 Apr-Sep (Six Months)		FY2021 Apr-Sep (Six Months)		Change	
		Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: pp)
Automotive Batteries	Japan	35.9	2.7 (7.4)	35.2	1.8 (5.0)	-0.7	-0.9 (-2.4)
	Overseas	78.1	5.3 (6.8)	87.6	4.3 (4.9)	+9.5	-1.0 (-1.9)
Industrial Batteries and Power Supplies		35.5	0.2 (0.5)	46.0	-0.2 (-0.3)	+10.5	-0.4 (-0.8)
Automotive Lithium-ion Batteries		14.1	-1.9 (-13.1)	18.4	0.2 (0.9)	+4.3	+2.1 (+14.0)
Specialized Batteries and Others		8.7	0.1 (1.4)	7.9	0.2 (2.9)	-0.8	+0.1 (+1.5)
Total		172.3	6.4 (3.7)	195.1	6.4 (3.3)	+22.8	-0.0 (-0.4)

Note : Operating income is operating income before amortization of goodwill and operating income ratio is operating income ratio before amortization of goodwill.

# Reference. Net Sales, Profits (Jul-Sep **Three Months** )



	FY2020 Jul-Sep (Three Months)	FY2021 Jul-Sep (Three Months)	Change	(Billion yen) (YoY%)
Net Sales	95.9	99.7	+3.8	(+3.9%)
Operating income (Operating income ratio)	4.3 4.5%	2.0 2.0%	-2.3 -2.5P	(-53.0%)
Operating income before amortization of goodwill (Operating income ratio before amortization of goodwill)	4.9 5.1%	2.6 2.6%	-2.3 -2.5P	
Ordinary income	4.8	2.3	-2.5	(-52.1%)
Extraordinary income	0.0	0.0	+0.0	
Extraordinary loss	2.9	1.1	-1.8	
Profit before income taxes	1.9	1.2	-0.7	
Income taxes	2.1	0.8	-1.3	
Profit attributable to non-controlling interests	-0.4	0.9	+1.3	
Profit attributable to owners of parent (Net profit ratio)	0.1 0.2%	-0.5 -0.5%	-0.6 -0.7P	(-)
Profit attributable to owners of parent before amortization of goodwill (Net profit ratio before amortization of goodwill)	0.7 0.7%	0.0 0.0%	-0.7 -0.7P	
Domestic lead price quote	¥263,000/t	¥319,100/t	-¥56,100/t	
LME	1,876US\$/t	2,341US\$/t	+465US\$/t	
Exchange rate	¥105.26/US\$	¥110.44/US\$	+¥5.18/US\$	

# Reference. Segment Results (Jul-Sep **Three Months** )



(Billion yen)

		FY2020 Jul-Sep (Three Months)		FY2021 Jul-Sep (Three Months)		Change	
		Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: pp)
Automotive Batteries	Japan	20.0	1.8 (8.8)	17.4	0.8 (4.4)	-2.6	-1.0 (-4.4)
	Overseas	41.3	3.2 (7.7)	42.8	1.4 (3.2)	+1.5	-1.8 (-4.5)
Industrial Batteries and Power Supplies		20.8	0.5 (2.3)	26.1	0.5 (1.8)	+5.3	-0.0 (-0.5)
Automotive Lithium-ion Batteries		9.5	-0.7 (-7.1)	9.5	0.0 (0.1)	+0.0	+0.7 (+7.2)
Specialized Batteries and Others		4.4	0.1 (2.4)	3.8	-0.0 (-1.0)	-0.6	-0.1 (-3.4)
Total		95.9	4.9 (5.1)	99.7	2.6 (2.6)	+3.8	-2.3 (-2.5)

Note : Operating income is operating income before amortization of goodwill and operating income ratio is operating income ratio before amortization of goodwill.

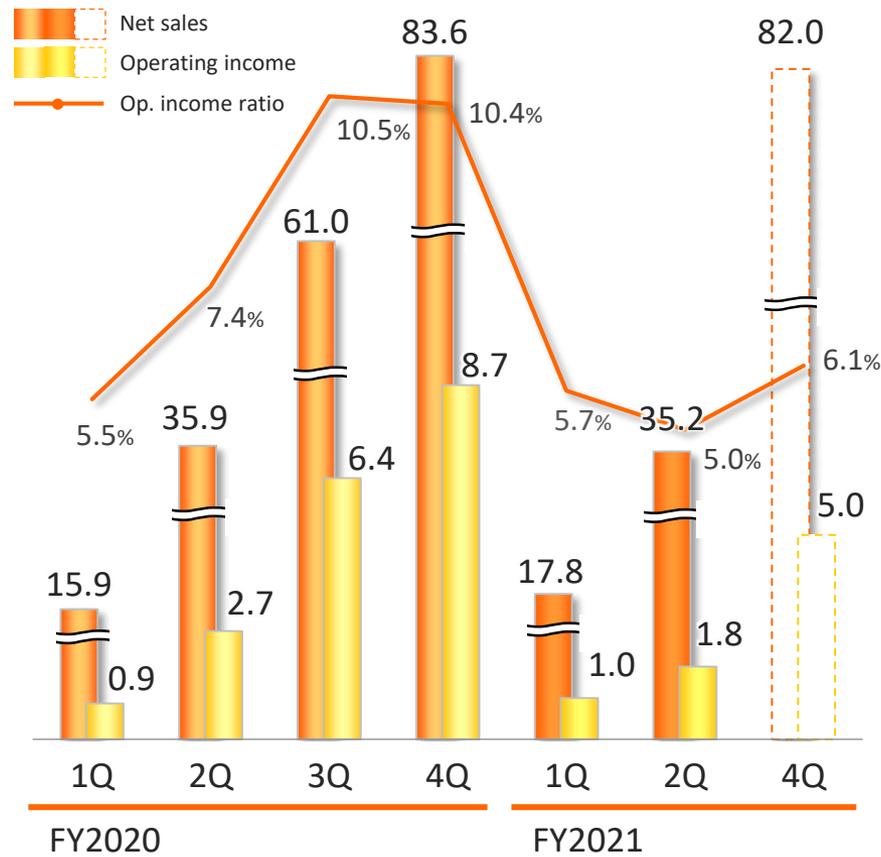
## 2. Segment Results (Automotive Batteries (Japan))

**Sales and profit declined**

(Billion yen)

### Automotive Batteries (Japan)

#### Net Sales, Operating income, Op. income ratio



#### FY2021 2Q Sales Overview

- Sales volume of batteries for new automobiles slightly increased due to the impact of production decrease of automakers because of semiconductor shortage, etc., despite recovery from a year-on-year severe decrease due to the impact of COVID-19
- Sales volume of replacement batteries was favorable continuously from the same period of the previous fiscal year
- Sales of buying and selling electrical components such as car navigation decreased due to the impact of semiconductor shortage

#### Main Profit Change Factors

Quantity, composition change	+0.7
Lead prices, sales prices	-1.4
Streamlining, expenses, etc.	-0.2

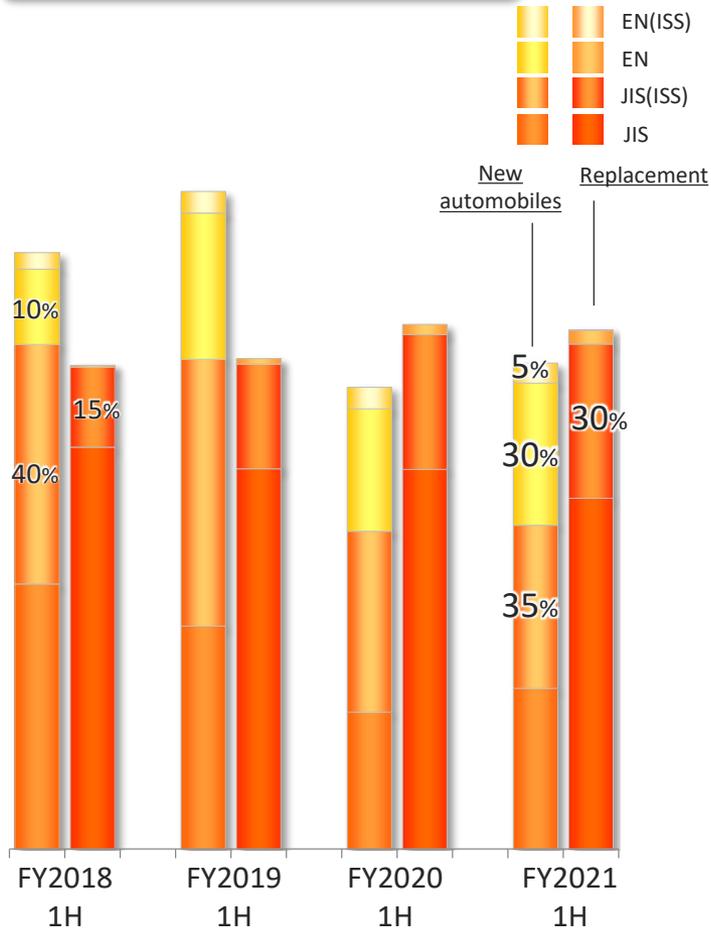
Note: Operating income is operating income before amortization of goodwill and Op. income ratio is Op. income ratio before amortization of goodwill.

# 2. Segment Results (Automotive Batteries (Japan))

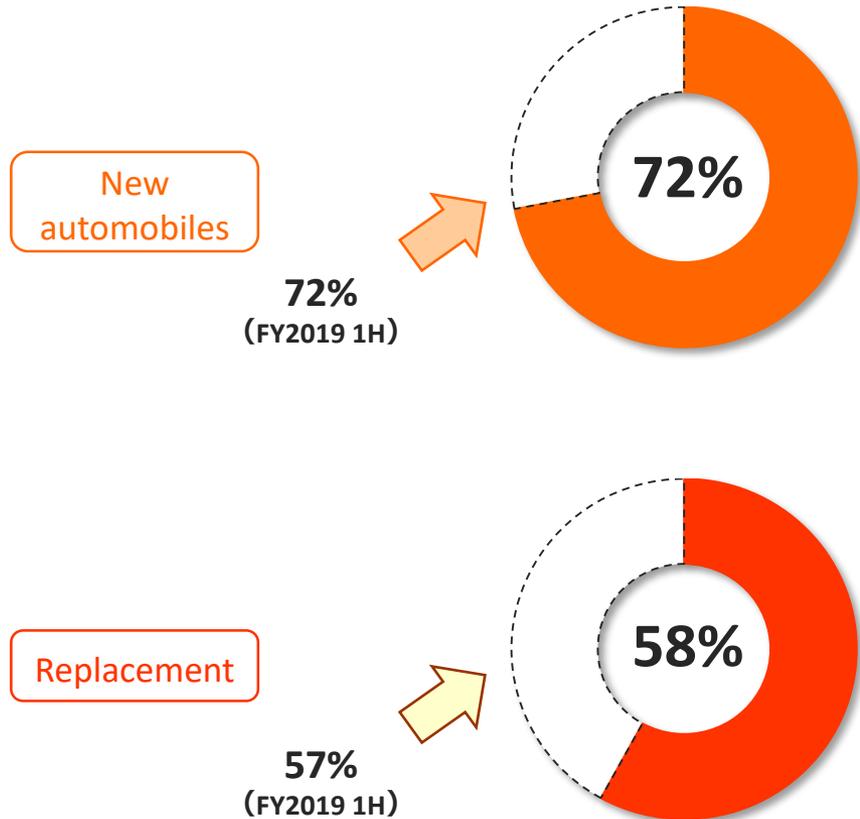
## Ratio of Shipped Batteries for New Automobiles and Replacement / Market share



### Ratio of Shipped Batteries



### Market Share (FY2021 1H/Group total)



\*In-house research (excluding imported batteries)

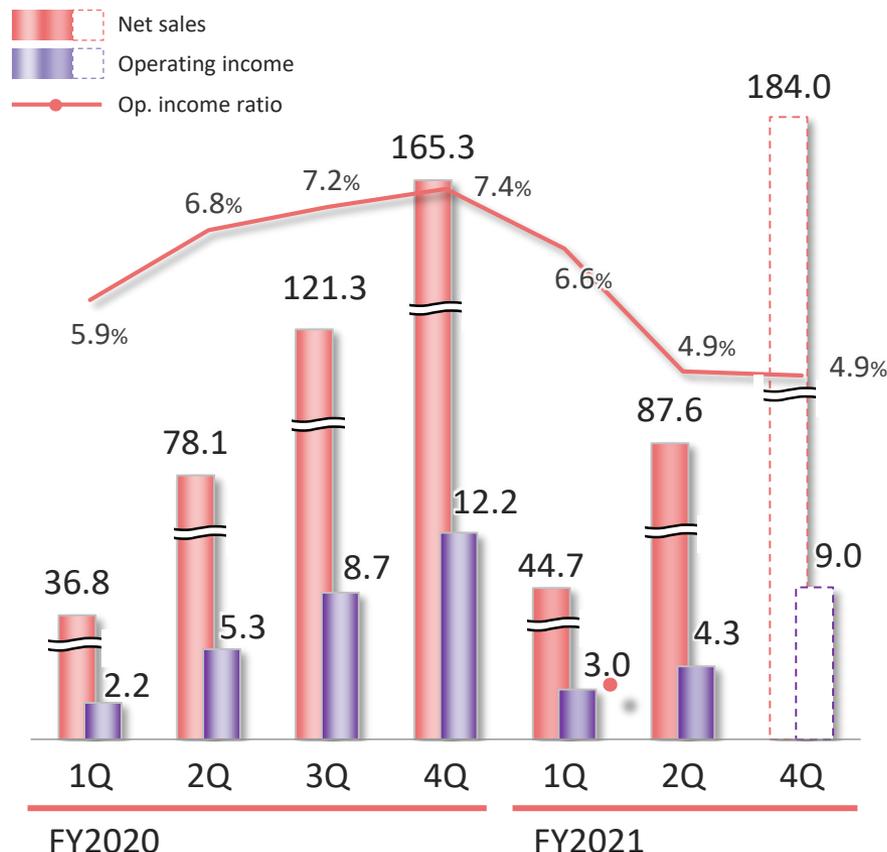
## 2. Segment Results (Automotive Batteries (Overseas))

### Automotive Batteries (Overseas)

Sales increased,  
profit declined

(Billion yen)

#### Net Sales, Operating income, Op. income ratio



#### FY2021 2Q Sales Overview

- Sales volume in Vietnam decreased from this quarter due to the impact of COVID-19. Sales volume of batteries for automobiles and motorcycles increased in Indonesia and Thailand
- In Europe, sales volume of replacement batteries increased
- In China, competition of replacement batteries became intense
- Sales increased due to the impact of weaker yen and the impact of higher selling prices because of and higher prices of lead

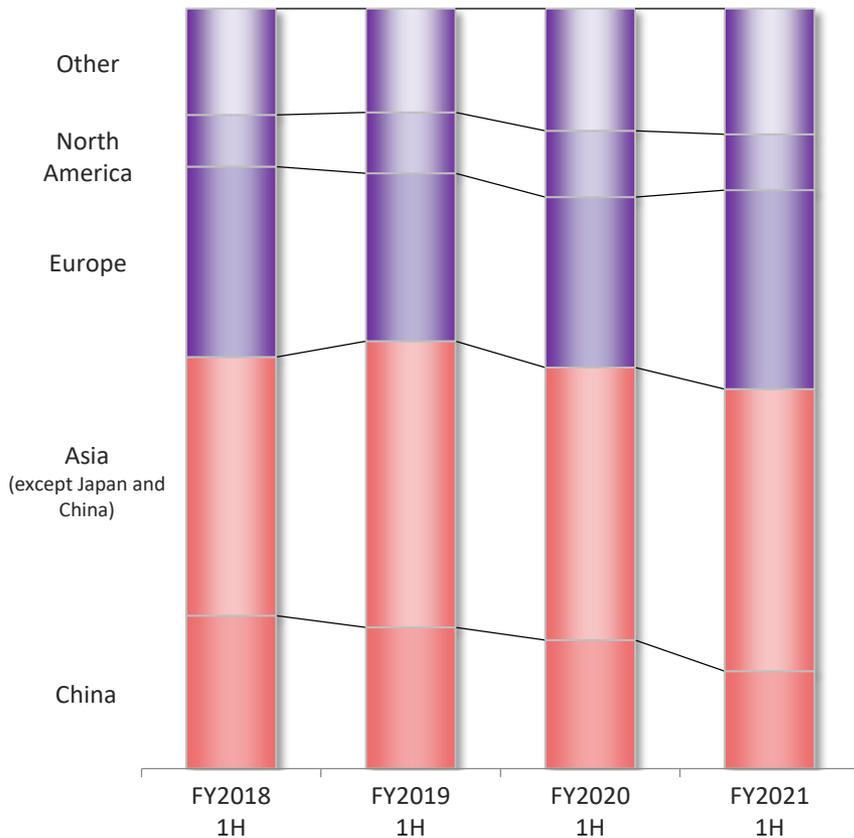
#### Main Profit Change Factors

Quantity, composition change	+1.6
Lead prices, sales prices	-1.3
Streamlining, expenses, etc.	-1.7
Exchange	+0.4

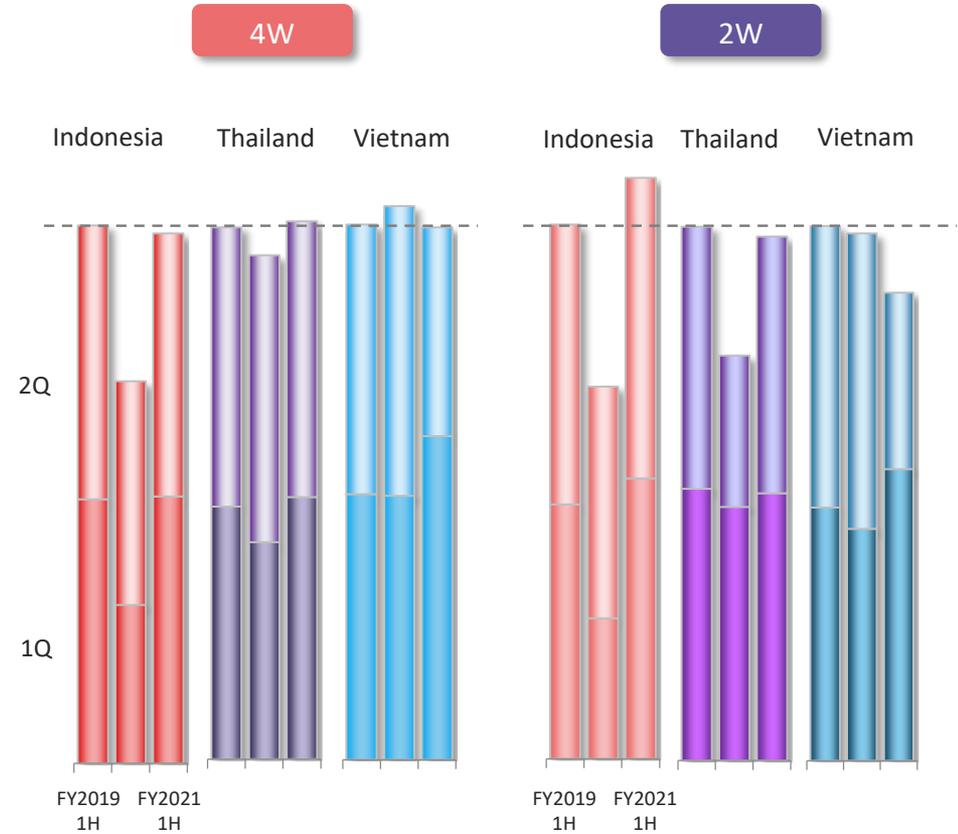
# 2. Segment Results (Automotive Batteries (Overseas))

## Sales by Region / Ratio of Shipped Batteries in Indonesia, Thailand, Vietnam

Sales by Region (include industrial)



Ratio of Shipped Batteries in Indonesia, Thailand, Vietnam



\*Including equity method affiliates

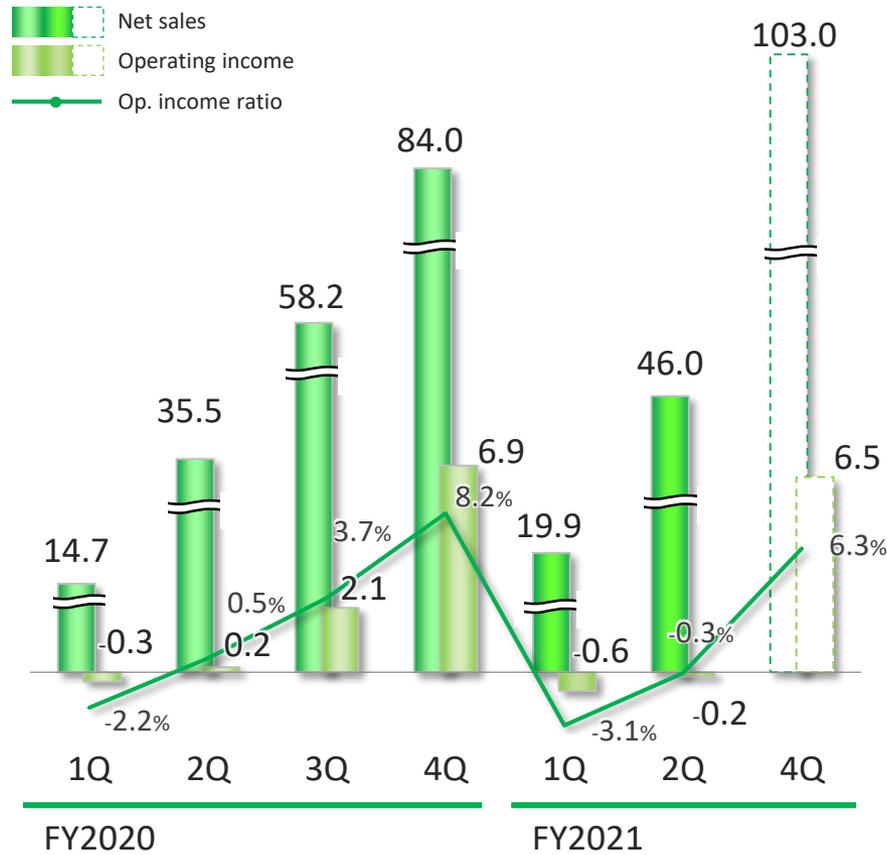
## 2. Segment Results (Industrial Batteries and Power Supplies)

### Industrial Batteries and Power Supplies

Sales increased,  
Profit declined

(Billion yen)

#### Net Sales, Operating income, Op. income ratio



#### FY2021 2Q Sales Overview

- Supply of lithium-ion batteries for large wind power generation came to the highest volume
- Sales volume of batteries and power supplies for backup recovered from the impact of COVID-19
- Infrastructure business of Sanken Electric Co., Ltd. was added as consolidation target by acquisition

#### Main Profit Change Factors

Quantity, composition change	+0.3
Lead prices, sales prices	-0.3
Streamlining, expenses, etc.	-0.4

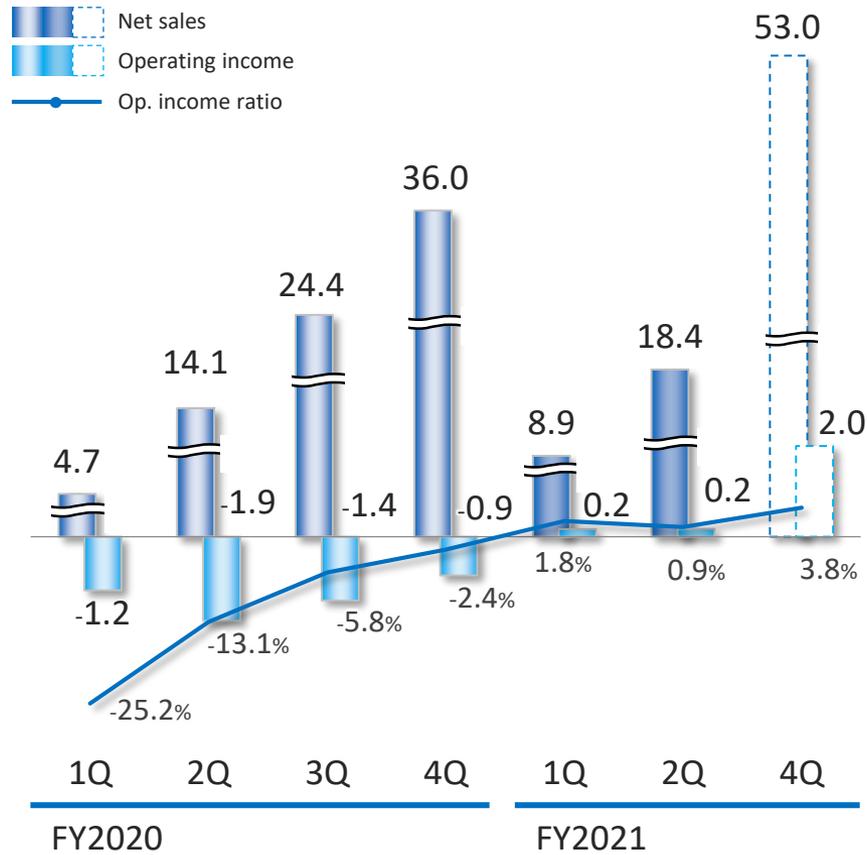
## 2. Segment Results (Automotive Lithium-ion Batteries)

Sales and profit increased

(Billion yen)

### Automotive Lithium-ion Batteries

#### Net Sales, Operating income, Op. income ratio



#### FY2021 2Q Sales Overview

- [Lithium Energy Japan (LEJ)] Sales of vehicle model installing our lithium-ion batteries for plug-in hybrid electric vehicles (PHEVs) was strong
- [Blue Energy (BEC)] Sales volume of lithium-ion batteries for hybrid vehicles (HEVs) increased due to starting trade with Toyota Motor Co., Ltd. from the previous fiscal year and increase of number of vehicle models installing our batteries

#### Main Profit Change Factors

- Profit of BEC increased due to the impact of increase of sales volume
- Profit of LEJ increased due to recovery of sales volume or decrease of weight of depreciation

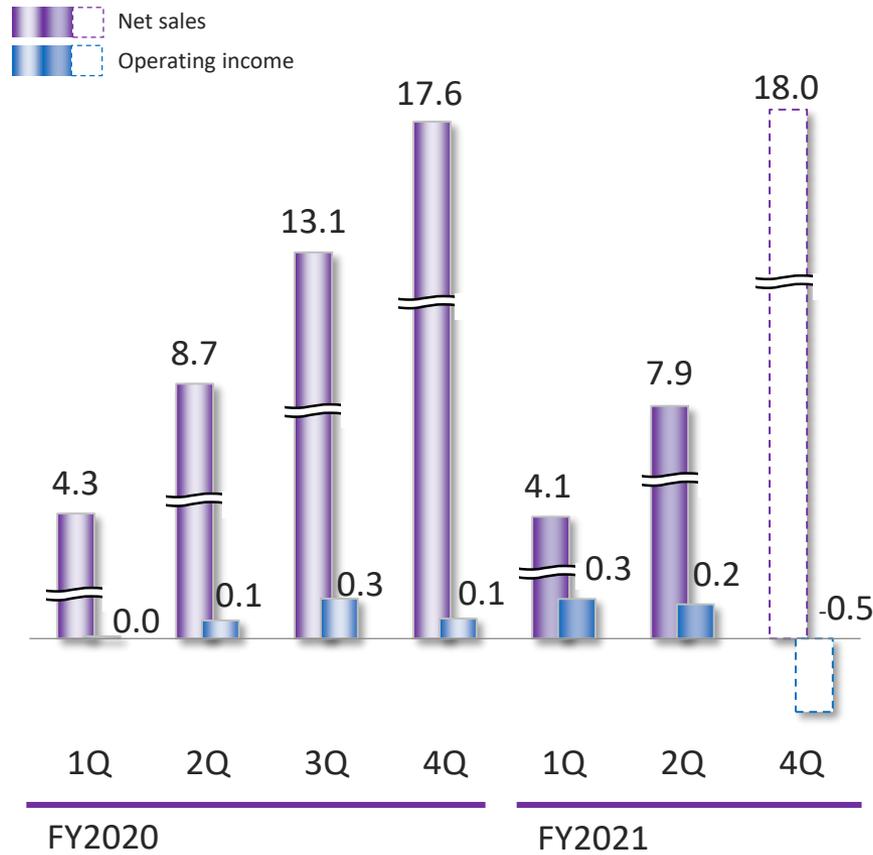
## 2. Segment Results (Specialized Batteries and Others)

### Specialized Batteries and Others

Sales declined,  
profit increased

(Billion yen)

#### Net Sales, Operating income



#### FY2021 2Q Sales Overview

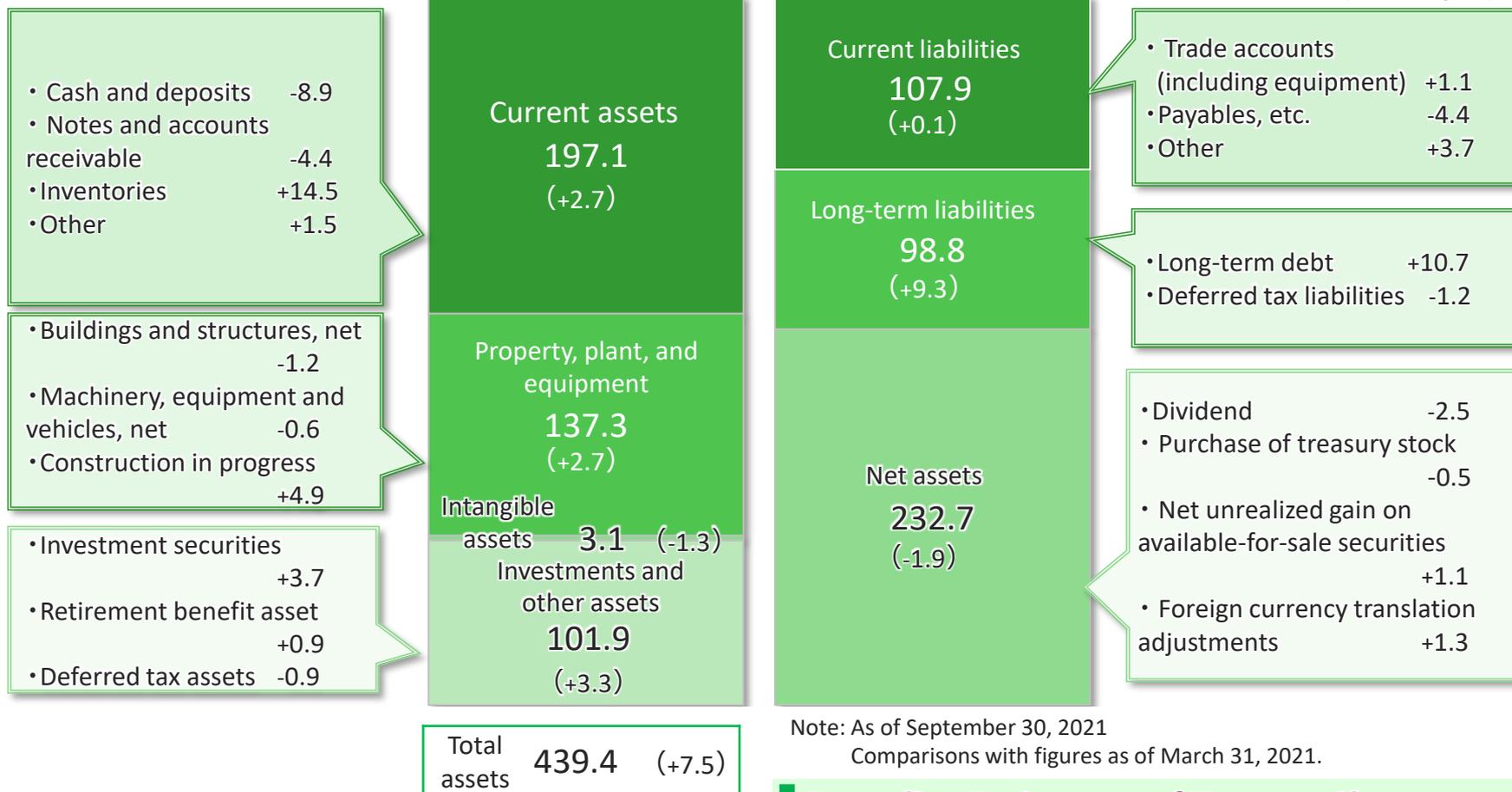
- Sales of lithium-ion batteries for submarines slightly decreased due to the relation of standard for progress of construction works
- Regarding sales of lithium-ion batteries for aircrafts, sales for airlines (for replacement) covered decrease of sales for aircraft manufacturers

#### Main Profit Change Factors

Profit increased due to decrease of expenses

# 3. Balance Sheet

(Billion yen)



Note: As of September 30, 2021  
Comparisons with figures as of March 31, 2021.

## Regarding Retirement of Treasury Shares

### 【Purpose of retirement】

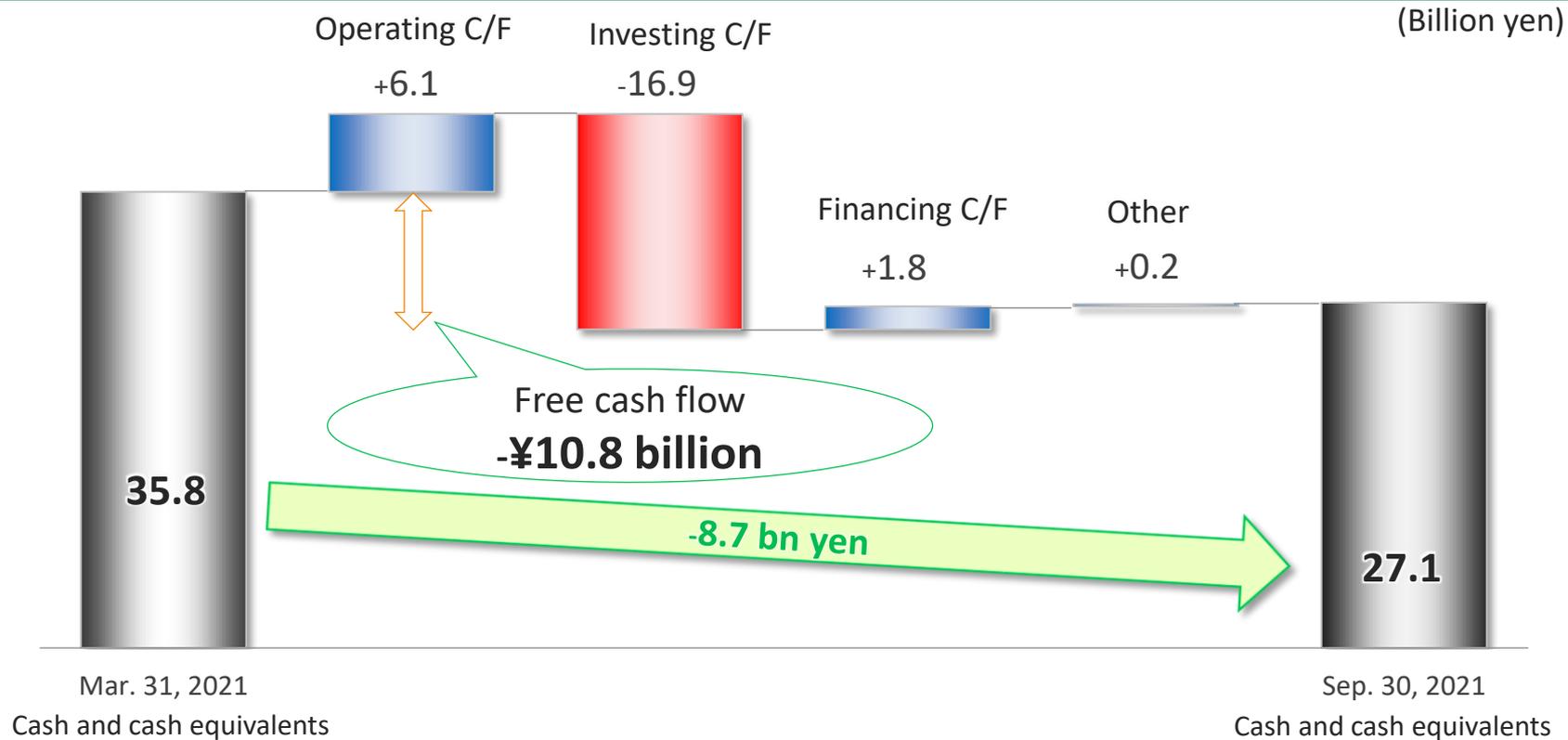
To increase mid- to long-term shareholder value

### 【Overview of retirement】

- 2,115,500 shares (2.56%)
- November 30, 2021

	3/31/2021	9/30/2021
Equity ratio	46.8%	45.9%
Total borrowings	¥65.4bn	¥75.9bn

# 4. Cash Flow Statements



## Highlights

- Operating C/F totaled ¥6.1 billion due to ¥6.4 billion profit before income taxes or depreciation, however, free cash flow came to -¥10.8 billion due to the capital investment for BEC No.2 plant. Withdraw cash and cash equivalents or enforced long-term debt to allocate to aforementioned capital investment or shareholder returns

# 5. Capital Investment, Depreciation, R&D Costs



(Billion yen)

		FY2020 1H	FY2021 1H	FY2020 Full year	FY2021 Full year (Forecast)
<b>Capital Investment</b>		8.8	13.3	23.2	35.0
Automotive Batteries	Japan	1.3	1.7	2.5	4.0
	Overseas	2.4	2.3	5.1	5.0
Industrial Batteries and Power Supplies		0.5	0.6	1.4	2.0
Automotive Lithium-ion Batteries		1.0	2.8	5.7	16.0
Specialized batteries and Others		3.6	6.0	8.5	8.0
<b>Depreciation</b>		8.3	8.3	16.2	18.0
Automotive Lithium-ion Batteries		1.9	1.5	3.4	3.5
<b>R&amp;D Expenses</b>		5.1	6.1	11.2	12.0
(Ratio of R&D expenses to net sales)		2.9%	3.1%	2.9%	2.7%

# 6. Revision to Consolidated Results Forecast

(Billion yen)					
	FY2020 Actual	FY2021 Initial forecast (A)	FY2021 Revised forecast (B)	Change ( (B) – (A) )	
Net sales	386.5	430.0	440.0	+10.0	
Operating income (Operating income ratio)	24.8 6.4%	24.0 5.6%	21.0 4.8%	-3.0 -0.8P	
Operating income before amortization of goodwill (Operating income ratio before amortization of goodwill)	27.1 7.0%	25.0 5.8%	22.0 5.0%	-3.0 -0.8P	
Ordinary income	27.3	26.0	24.0	-2.0	
Profit attributable to owners of parent (Net profit ratio)	11.5 3.0%	12.0 2.8%	11.0 2.5%	-1.0 -0.3P	
Profit attributable to owners of parent before amortization of goodwill (Net profit ratio before amortization of goodwill)	13.5 3.5%	13.0 3.0%	12.0 2.7%	-1.0 -0.3P	
Conditions	Domestic lead price quote	¥260,900/t	¥280,000/t	¥310,000/t	+¥30,000/t
	LME	1,867US\$/t	2,000US\$/t	2,200US\$/t	+200US\$/t
	Exchange rate	¥105.94/US\$	¥105.0/US\$	¥110.0/US\$	+¥5.0/US\$

## Reason for revision

- Revised net sales to 10.0 billion yen over considering mainly the impact of weaker yen of exchange
- Revised operating income to 3.0 billion yen under considering the impact of higher price of law materials mainly including lead

# 6. Revision to Consolidated Results Forecast



(Billion yen)

		FY2020 Actual		FY2021 Initial forecast (A)		FY2021 Revised Forecast (B)		Charge ( (B) – (A) )	
		Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income
Automotive Batteries	Japan	83.6	8.7 (10.4)	83.0	6.5 (7.8)	82.0	5.0 (6.1)	-1.0	-1.5
	Overseas	165.3	12.2 (7.4)	176.0	10.0 (5.7)	184.0	9.0 (4.9)	+8.0	-1.0
Industrial Batteries and Power Supplies		84.0	6.9 (8.2)	102.0	7.5 (7.4)	103.0	6.5 (6.3)	+1.0	-1.0
Automotive Lithium- ion Batteries		36.0	-0.9 (-2.4)	51.0	1.0 (2.0)	53.0	2.0 (3.8)	+2.0	+1.0
Specialized Batteries and Others		17.6	0.1 (0.8)	18.0	0.0 (-)	18.0	-0.5 (-2.8)	-	-0.5
Total		386.5	27.1 (7.0)	430.0	25.0 (5.8)	440.0	22.0 (5.0)	+10.0	-3.0

Note: Operating income is operating income before amortization of goodwill and operating income ratio is operating income ratio before amortization of goodwill.

# **Outlook of Automotive Lead-acid Batteries / Lithium-ion Batteries**

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# 1. Overview of Automotive Lead-acid Batteries / Lithium-ion Batteries

## Overview of Automotive Lead-acid Batteries / Lithium-ion Batteries



Holding Company

GS Yuasa Corporation

Manufacturing Company

GS Yuasa International Ltd.

**Automotive Batteries Business**

Lead



Manufacture and sell lead-acid batteries for automobiles and motorcycles in Japan or overseas

**Automotive Lithium-ion Batteries Business**

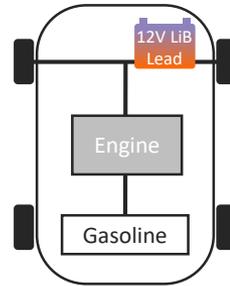
Lithium



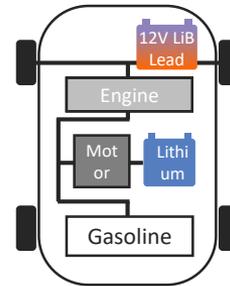
Manufacture and sell automotive lithium-ion batteries for EVs, PHEVs, HEVs

Use of storage batteries by type of vehicle

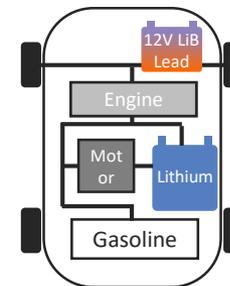
**Internal Combustion Engine Cars (ICE)**



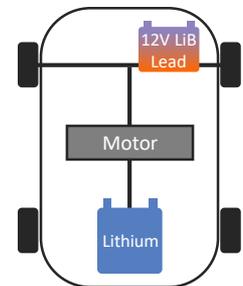
**Hybrid Vehicles (HEVs)**



**Plug-in Hybrid Vehicles (PHEVs)**



**Electric Vehicles (EVs)**



Use / Type	ICE	HEVs	PHEVs	EVs
For drive force (Including assist)		Lithium		
For starting engines	Lead or 12V LiB			
For auxiliary equipment (For starting systems and 12V equipment)		Lead or 12V LiB		
For redundancy (Backup for self-driving)		12V LiB		

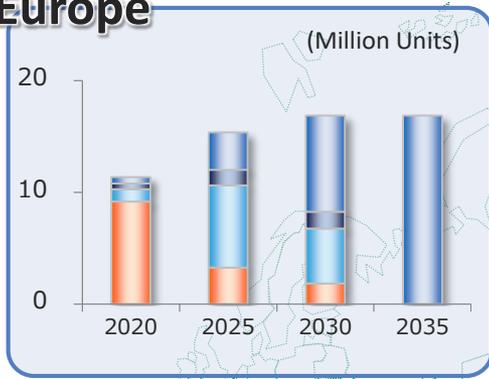
# 2. Forecast of Sales of ICE / Electric Cars by Region

## Forecast of Sales of New Automobiles by Region

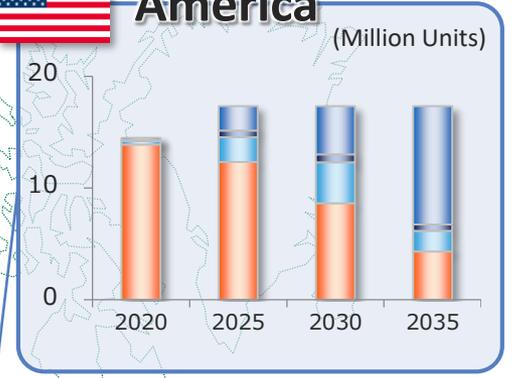


ICE HEVs PHEVs EVs

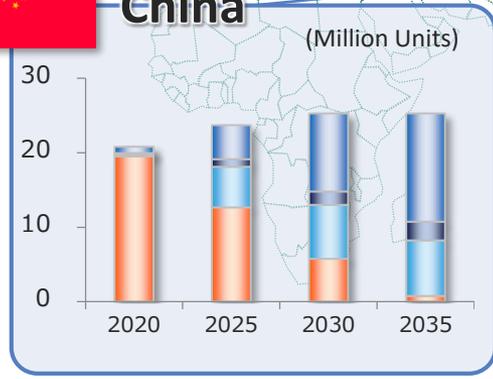
### Europe



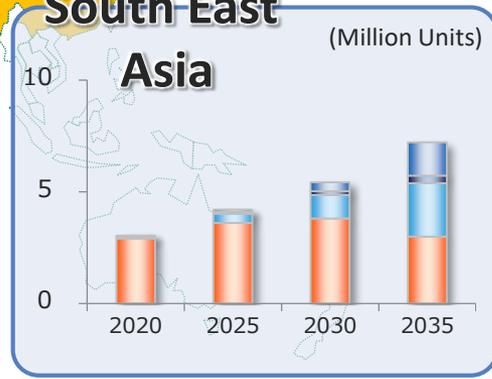
### America



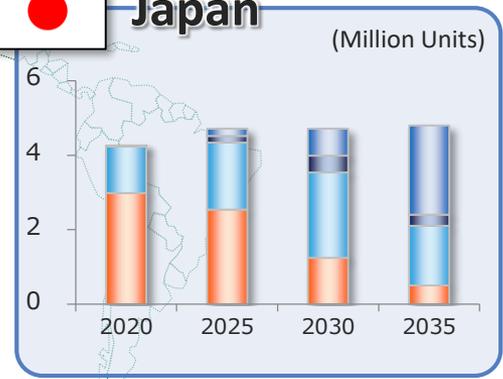
### China



### South East Asia



### Japan



Note: Our estimate by reference to documents of securities companies

# 3. Strategy of Automotive Lead-acid Batteries

## Response to Increase of Demand for Auxiliary Batteries due to Progress of Electrification



### Response to Increase of **Auxiliary Batteries**

- Auxiliary batteries, definitely installed even in electric cars such as EVs, will increase



Capture demand **for new automobiles and replacement** mainly in Japan, Europe and China

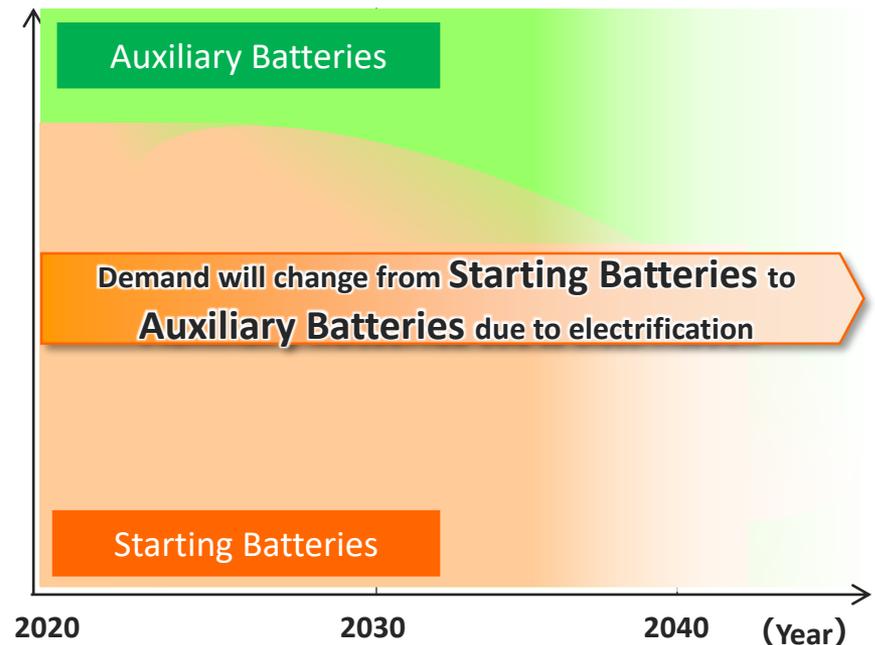
### Policy for Decrease of **Starting Batteries**

- Starting batteries for new automobiles will gradually decrease due to electrification although there is regional difference



Capture demand **for new automobiles and replacement** in region where ICE will remain, mainly in ASEAN region

### Change of Demand of Auxiliary Batteries (illustration)



# 4. Strategy of Automotive Lithium-ion Batteries

## Strategy of Automotive Lithium-ion Batteries and Increase Development Resources for EVs



### Toward Full-scale Entry to the Market of **LiB for EVs**

- EVs will increase rapidly, particularly in Europe because ICE or HEV restriction will spread globally

Increase development resources for full-scale entry

### Increase production of **LiB for HEVs**

- Until Mid-2030s, demand for HEVs will grow mainly, primarily among Japanese automakers

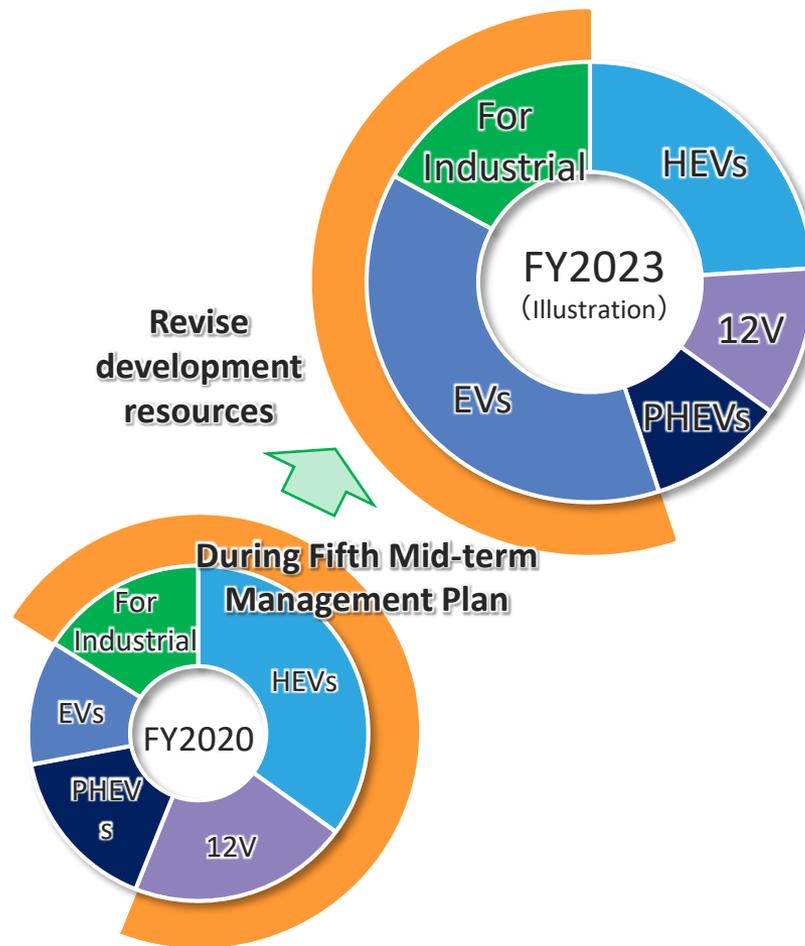
Increase production capacity by constructing **BEC No.2 plant** and respond to demand from Japanese automakers

### Respond to **12V LiB (Starting, auxiliary batteries)**

- Lead-acid batteries will be restricted by End-of Life Vehicles Directive in Europe
- Use for redundancy will increase for the future due to spreading self-driving

Supply from Hungary and respond to demand due to spreading self-driving

### Allocation of Development Resources (illustration)

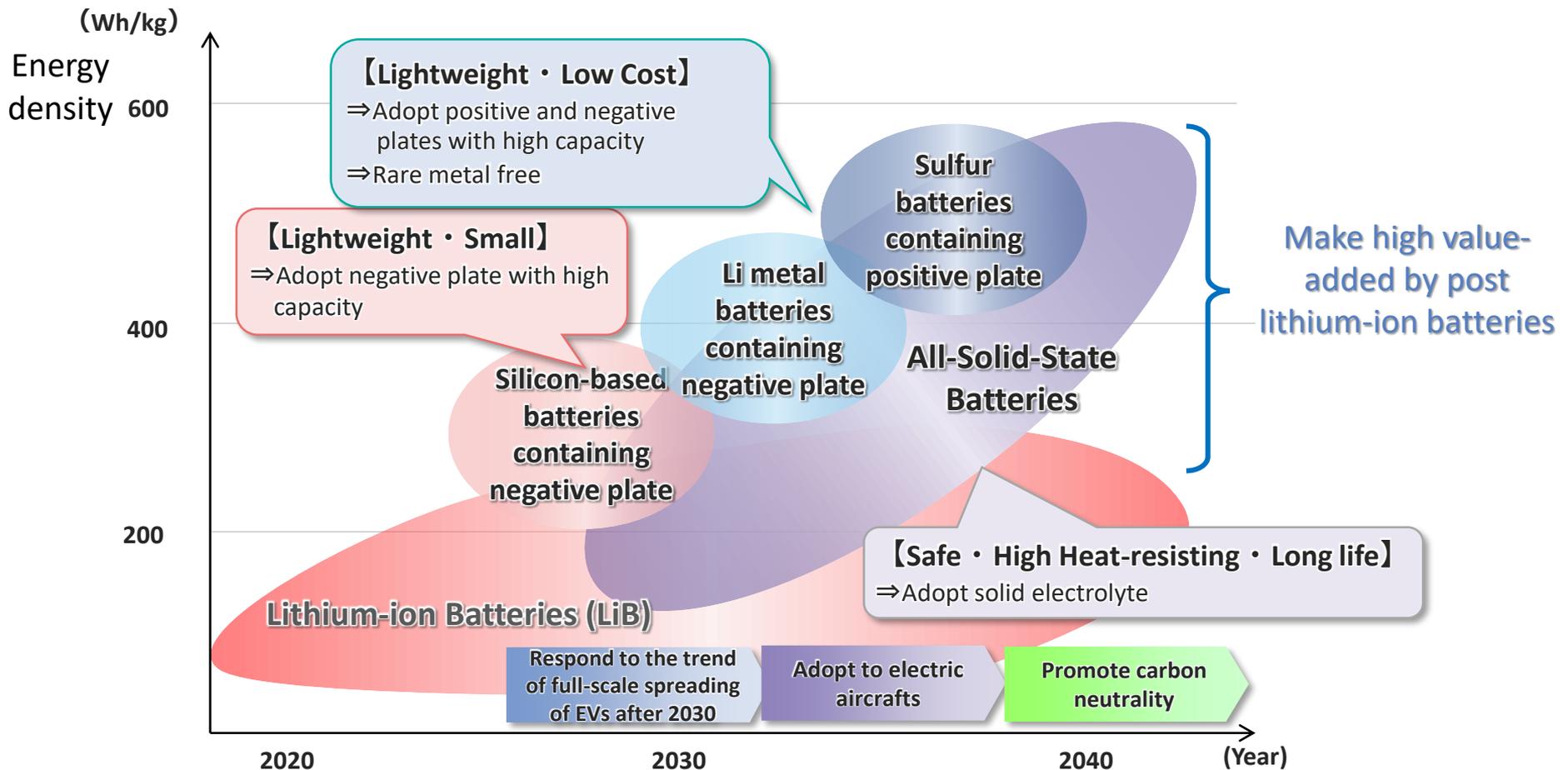


# Research and Development of Next-generation Batteries

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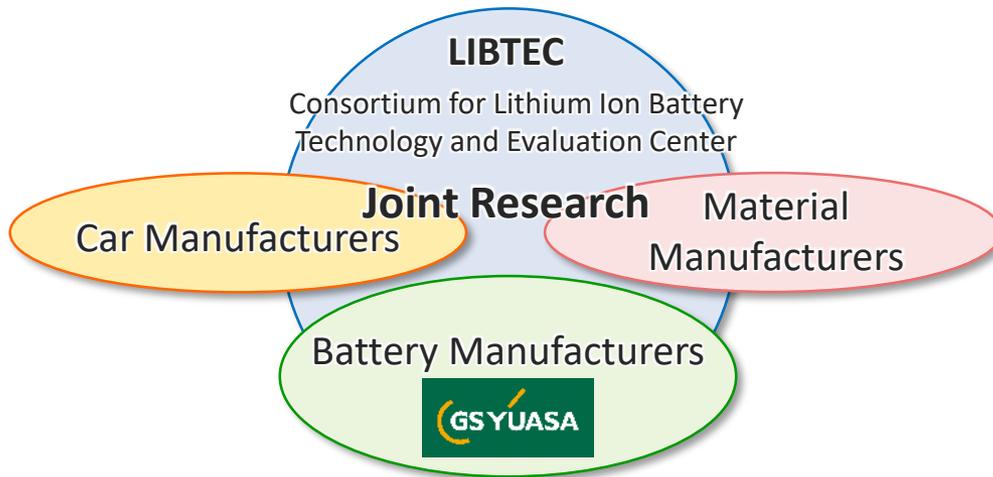
# 1. Development of Post Lithium-ion Batteries

## Roadmap of Development of Post Lithium-ion Batteries

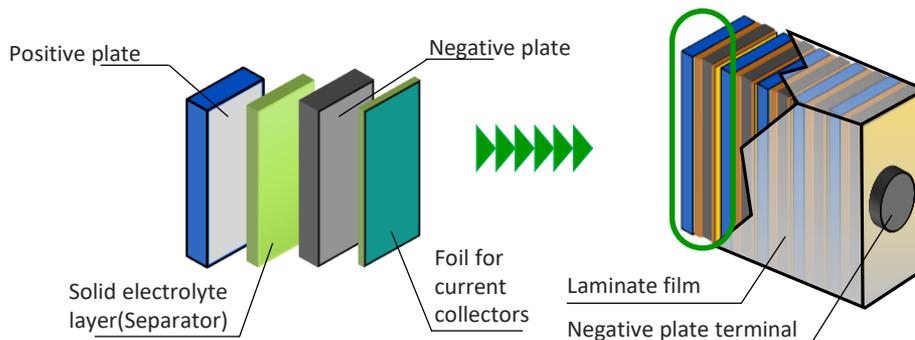


# 2. Research and Development System of All-solid-state Batteries

## Research and Development System of All-solid-state Batteries



### 【All-solid-state LiB】



Research and Development System of **All-solid-state Batteries**

- Joint research in LIBTEC with Japanese automakers, material manufacturers or battery manufacturers
- GS Yuasa's unique research and development



Purpose of **Research and Development**

- **Ensure superiority** to manufacturers in China and Korea by research with Japanese companies
- Research and development of batteries **those meet the needs of performance** from Japanese automakers

# 3. Development of All-solid-state Batteries

## Development of All-solid-state Batteries



### 【Technical Issue toward Practical Use】

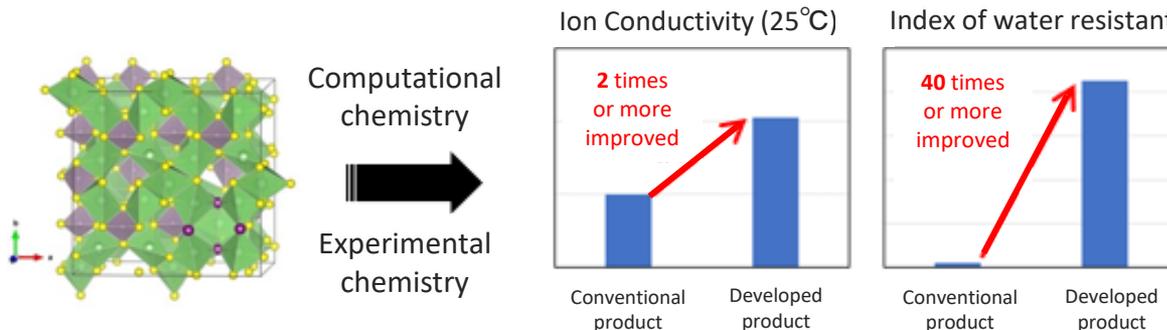
- ① Improve ionic conductivity of solid electrolyte
- ② Improve water resistant of sulfide solid electrolyte
- ③ Reduce interfacial resistance between solid electrolyte and active material
- ④ Improve electric potential resistance of solid electrolyte

Greatly improved

### 【Research Result of GS Yuasa】

In GS Yuasa's unique research adapting computational chemistry, **developed new sulfide solid electrolyte**

⇒ Expected to improve performance of batteries or reduce production cost and contribute to **practical use of all-solid-state batteries**



**Aim for practical use starting from specialized batteries in late 2020s**

# 4. Progress of NEDO's Project for Aircrafts

## Progress of NEDO's "Research and Development Project for Advanced Aircraft Systems toward Practical Application"



Research and Development Topic 8: Next-Generation Electrical Propulsion Systems  
 \*Topic 8 was added to the project in FY2019

1 to 7 are existing Research and Development Topics under the "Research and Development Project for Advanced Aircraft Systems toward Practical Application"



Lithium sulfur batteries (Capacity: 8 Ah)

In 2019  
 Ministry of Economy, Trade and Industry and The Boeing Company entered an agreement of technical cooperation of aircrafts for the future

### Medium Target

In 2021

Energy density level of **400Wh/kg**

In 2019

Start to develop lightweight storage batteries for aircraft by NEDO PJ

In 2011

Start to develop silicon-sulfur batteries

Although this document has been prepared with information believed to be correct, GS Yuasa Corporation does not guarantee the accuracy or the completeness of such information. Also, the information herein contains forward-looking statements regarding the Company's plans, outlooks, strategies and results for the future. All the forward-looking statements are based on judgments derived from information available to the Company at the time of release. Certain risks and uncertainties could cause the Company's actual results to differ materially from any projections presented herein.



## Reference

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## External ratings of CSR activities

### CSR evaluations

	ESG rating by MSCI (U.S.) <sup>*1</sup>	CSR assessment by Toyo Keizai Inc. <sup>*2</sup>				CDP (English) assessments <sup>*3</sup>
		HR utilization	Environment	Corporate governance	Sociality	
2021	A	AAA	AAA	AA	AA	B <sup>*4</sup>
2020	A	AA	AAA	AA	AA	B
2019	A	AA	AA	AA	AA	B
2018	AA	AA	AA	AA	AA	B-
2017	AA	AA	AA	AA	AA	C

\*1: ESG rating of MSCI (U.S.) is done by Japan ESG Select Leaders Index and is seven-grade evaluation of AAA, AA, A, BBB, BB, B and CCC.

\*2: Toyo Keizai Inc.'s CSR assessment is five-grade evaluation of AAA, AA, A, B and C.

\*3: CDP (English) is eight-grade evaluation of A, A-, B, B-, C, C-, D, D-

\*4: Assessments in 2021 has not announced yet therefore results above are assessments in 2020

### Evaluation, certification and accreditation for GS Yuasa's CSR-related efforts



- Selected as a certified company of the Company with Excellent Health Management 2021 by the Ministry of Economy, Trade and Industry

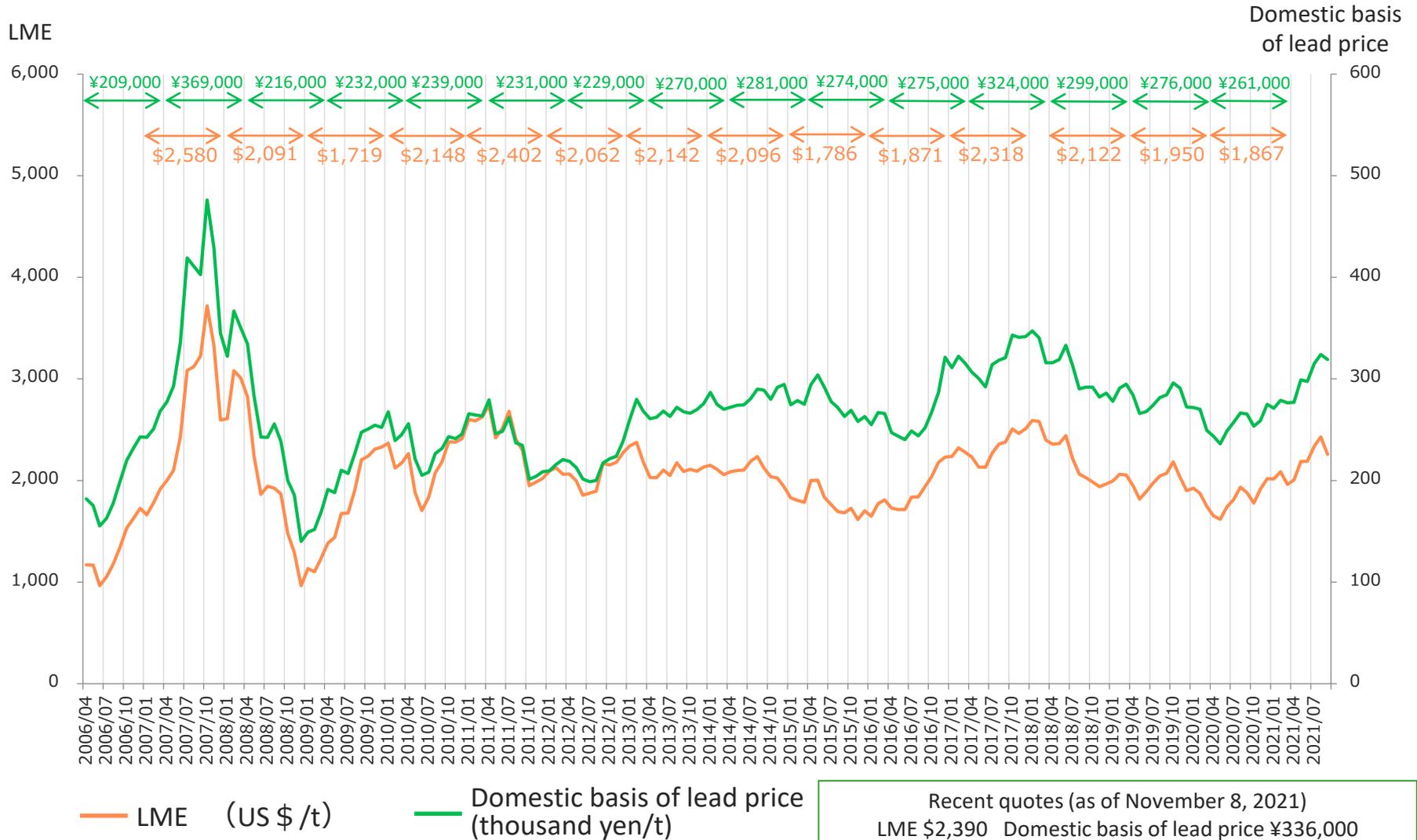


- Received Platinum Kurumin certification as a company that supports child care by the Ministry of Health, Labor and Welfare



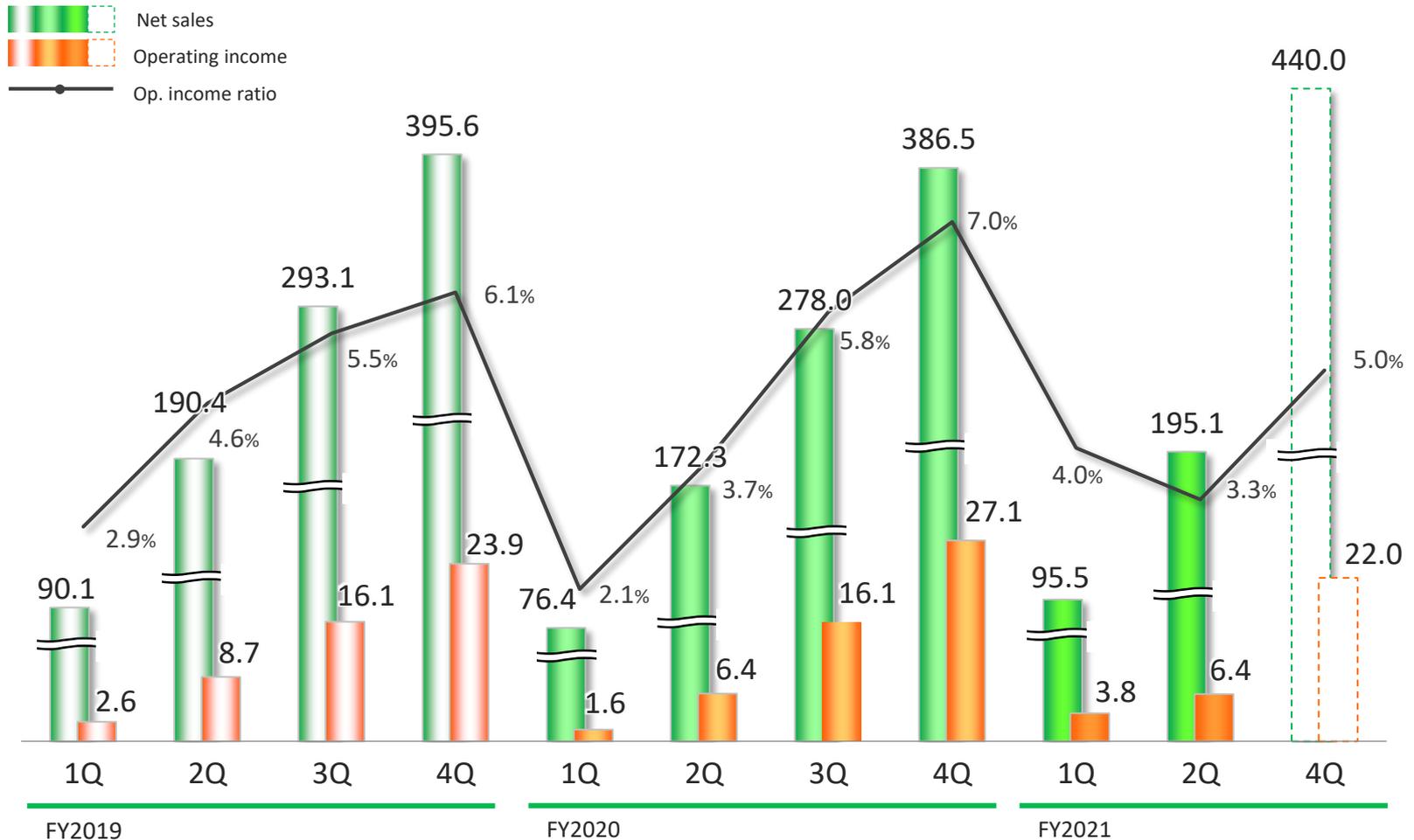
- Received the highest rank "particularly excellent in terms of initiatives for employees' health" from DBJ Employees' Health Management Rating

## Raw Materials Prices



## Net Sales, Operating Income, Op. Income Ratio

(Billion yen)



Note: Operating income is operating income before amortization of goodwill and op. income ratio is op. income ratio before amortization of goodwill.