



## **FY12/19 Financial Results Briefing Material**

RS Technologies Co., Ltd.

February 13, 2020



Code: 3445  
Tokyo Stock Exchange First Section

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# 1. Company Overview

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# Company Overview

- Holds the top market share worldwide in semiconductor wafer reclamation at 30%
- Conducting a full-scale advance into the prime wafer business through a joint venture with a Chinese state-owned company
- Expanding into peripheral business fields expected to produce synergy through M&A

<b>Company name</b>	RS Technologies Co., Ltd.
<b>Date of establishment</b>	December 10, 2010
<b>Corporate principles</b>	“Respect the global environment, earn the trust of people, and constantly strive to create.”
<b>Business</b>	Silicon Wafer Reclaim, Silicon Wafer Oxide Film Coating, Silicon Wafer Sales. Solar Power Station. Purchase and sale of used semiconductor equipment. Sale of chemical materials and semiconductor parts. Technical assistance and education service on semiconductor wafer manufacturing process.
<b>Head office</b>	NT Bldg. 12F, 1-47-1, Ohi, Shinagawa-ku, Tokyo 140-0014 JAPAN
<b>Factory</b>	26-2 Yamazaki, Sanbongi Otonashi, Osaki, Miyagi 989-6313 JAPAN
<b>Capital</b>	JPY 5,376 million (As of end December 2019)
<b>President and CEO</b>	Nagayoshi Ho
<b>Consolidated subsidiaries</b>	RSTEC Semiconductor Taiwan Co.,Ltd. Founded in February 2014, Capital: NT \$300 million, Stake: 100%
	Beijing GRINM RS Semiconductor Materials Co., Ltd. Registered Capital US \$138 million, Stake 45%
	Union Electronics Solutions Co., Ltd. Capital ¥27 million, Stake 100%
	Shandong GRINM Semiconductor Materials Co., Ltd. (Shandong GRITEK, Dezhou, Shandong) Registered Capital RMB 1,500 million, Stake 36%
	DG Technologies Co., Ltd. Capital ¥100 million, Stake 100%

# History

- Launched business in 2010 and holds top share worldwide in the silicon wafer reclamation business
- Converted a major Chinese prime wafer manufacturer into a consolidated subsidiary in 2018 and became a comprehensive manufacturer of wafers

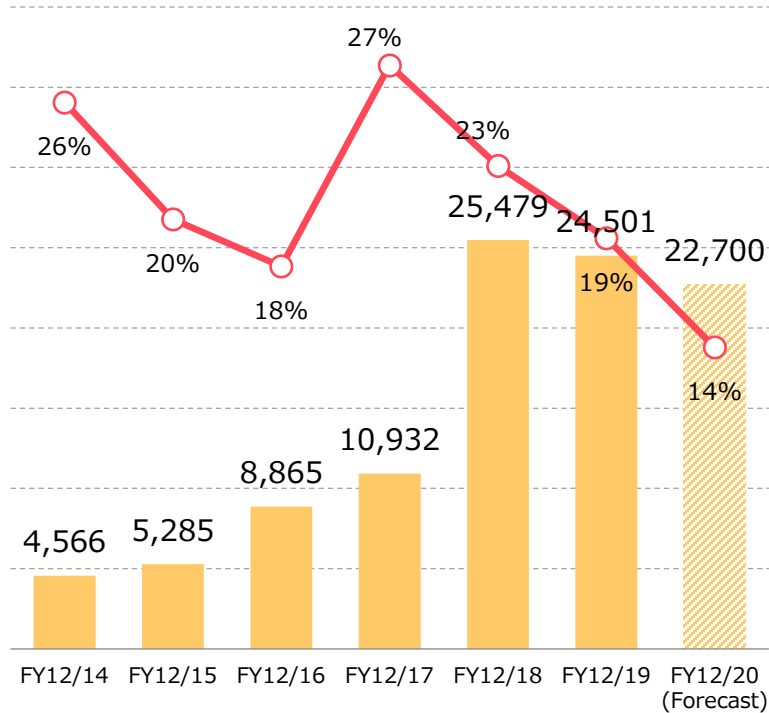
<b>Dec. 2010</b>	RS Technologies established in Shinagawa-ku, Tokyo, with silicon wafer reclamation as its primary business
<b>Jan. 2011</b>	Operations begun at the Sanbongi Factory
<b>Nov. 2011</b>	Sanbongi Factory acquires ISO9001:2008 (quality management system) certification from UKAS
<b>Mar. 2013</b>	Equipment sales begun
<b>Oct. 2013</b>	Solar power business begun at the Sanbongi Factory
<b>Feb. 2014</b>	RSTEC Semiconductor Taiwan established as a subsidiary in Taiwan (currently a consolidated subsidiary)
<b>Mar. 2015</b>	RST listed on the Tokyo Stock Exchange Mothers Market
<b>Jun. 2015</b>	Fab8 completed at Sanbongi Factory, with cutting-edge equipment allowing reclamation of 18-inch wafers
<b>Dec. 2015</b>	Tainan Factory completed for RSTEC Semiconductor Taiwan (currently a consolidated subsidiary)
<b>Sep. 2016</b>	RST moved to the Tokyo Stock Exchange First Section
<b>Dec. 2017</b>	Joint venture agreement concluded with General Research Institute for Nonferrous Metals (GRINM) and Fujian Kuramoto
<b>Jan. 2018</b>	Beijing GRINM RS Semiconductor Materials Co., Ltd. (BGRS) established; Chinese prime wafer manufacturer Youyan Semiconductor Material Company Limited made a consolidated subsidiary
<b>May 2018</b>	Acquired 100% of shares at Union Electronics Solutions Co., Ltd. (distributor for Hitachi Power Semiconductor Device, Ltd.)
<b>Aug. 2018</b>	Established Shandong GRITEK Co., Ltd.
<b>Jan. 2019</b>	Acquired 100% of shares of DG Technologies Co., Ltd.
<b>Dec. 2019</b>	A four-party joint venture agreement concluded with General Research Institute for Nonferrous Metals (GRINM), Dezhou Huida Semiconductor Equity Investment Fund Partnership, and the City of Dezhou in Shandong

# RS Technologies Today

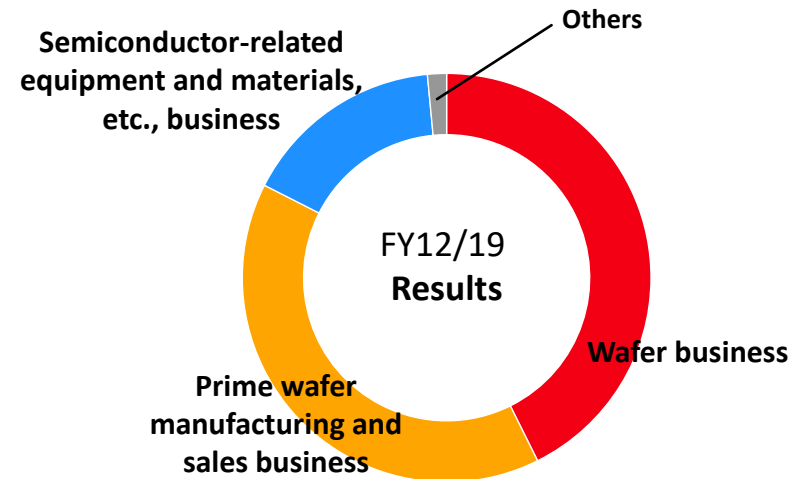
- A comprehensive wafer manufacturer in the silicon wafer reclamation business and prime wafer business.
- Business has expanded into semiconductor-related equipment and materials, etc., business and solar business.
- The Company boasts the world's top share in the silicon wafer reclamation business and is expanding its prime wafer business in China for its domestic use.

Consolidated Net Sales and Operating Income Ratio

(Unit: Million yen)



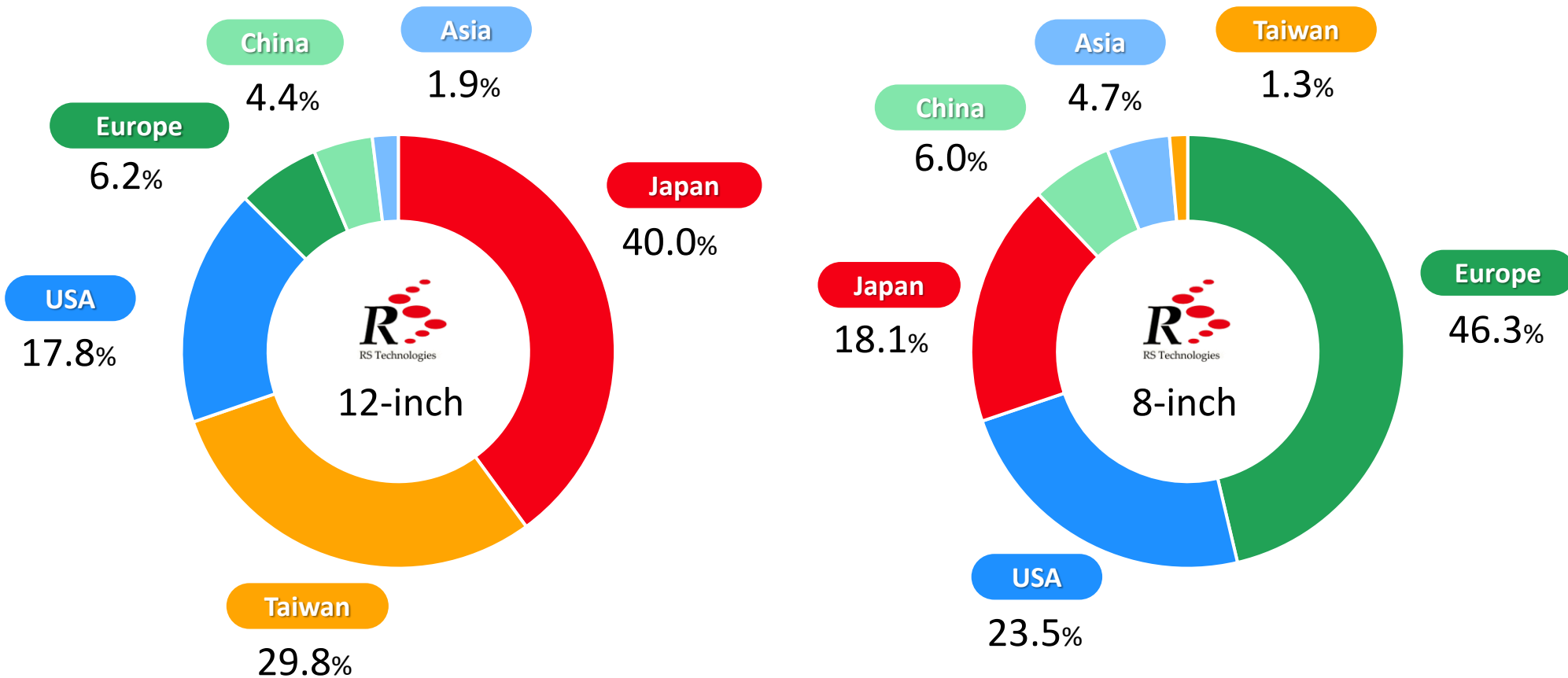
Results by Segment





# Share of Total Shipments from the Silicon Wafer Reclamation Business

- The customers are major global semiconductor manufacturers, mainly in Japan, Taiwan, USA, and Europe.
- Capital investment decided to establish a new production base in China during FY2019 to respond to the expansion of future demand.



Notes: Based on wafer numbers reported in a study conducted by RST (fiscal 2018)

## 2. FY12/19 Results Summary

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# FY12/19 (Cumulative) Results summary

- Net sales have seen a fall in prime wafer business impacted by economic slowdown and YoY profit has fallen.
- In addition to the fall in sales above, operating income has suffered a YoY decrease due to costs to rectify past fiscal year reports and increase in personnel costs for enhancements to internal management system.

(million yen)	FY12/18	FY12/19 Initial forecast	FY12/19 Revised forecast (Announced Jan. 17, 2020)	FY12/19	Vs. Previous term	Against revised forecast
Net sales	25,478	28,688	24,500	24,501	-3.8%	+0.0%
Operating income	5,751	5,971	4,600	4,717	-18.0%	+2.5%
Operating income ratio	22.6%	20.8%	18.8%	19.3%	-3.3pt	+0.5pt
Ordinary income	6,141	6,151	5,400	5,416	-11.8%	+0.3%
Ordinary income ratio	24.1%	21.4%	22.0%	22.1%	-2.0pt	+0.1pt
Net income attributable to owners of the parent	3,620	3,621	3,000	3,035	-16.2%	+1.2%
Net income per share	294.80	282.72	233.83	236.98	-19.6%	+1.3%

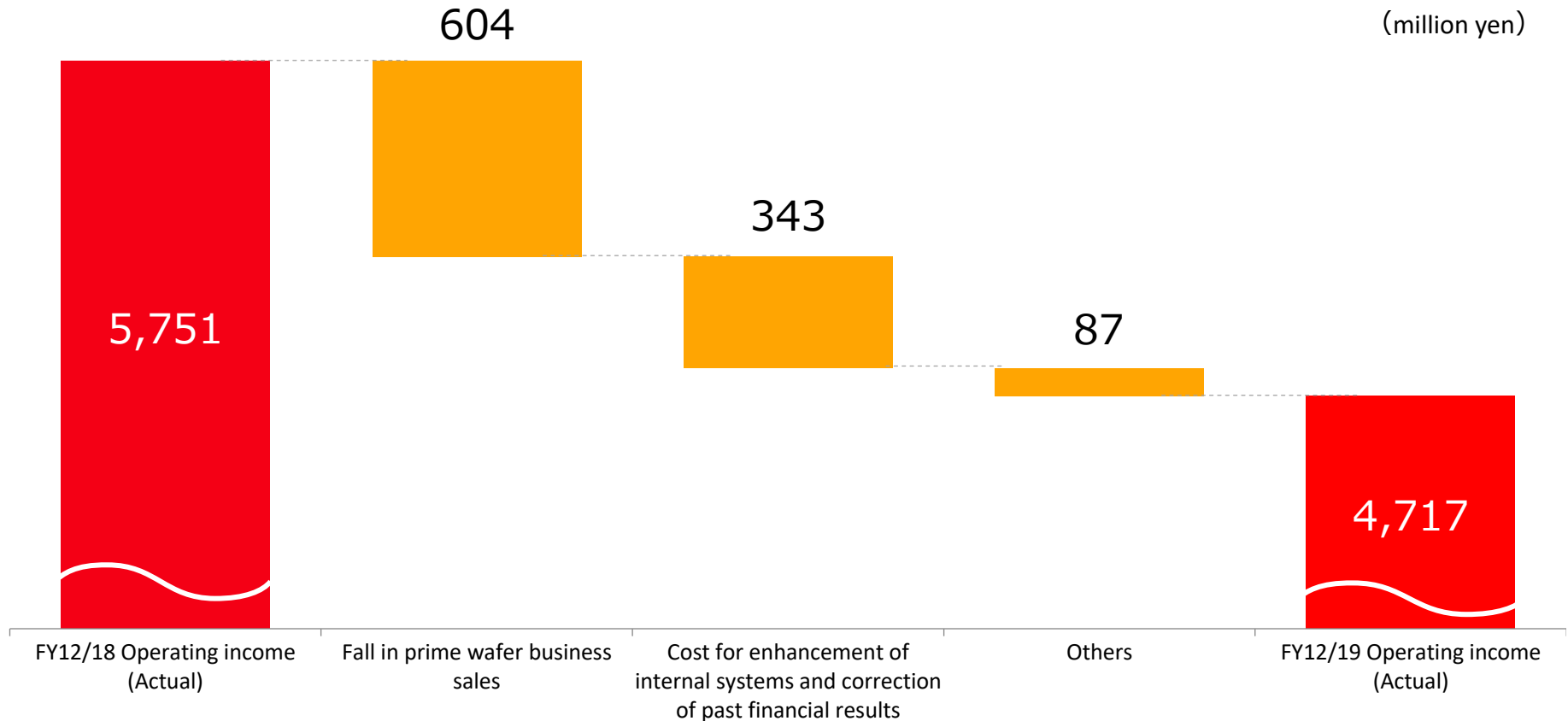
# FY12/19 (Cumulative) Results by Segment and Company

- Increase in profit has been secured in wafer business although net sales have fallen. Full production continues fueled by active demand.
- Prime wafer business has suffered a fall for both YoY sales and profit, affected by the slowdown of economy.
- YoY income has fallen for RS from a decrease in capital spending in the semiconductor market. In addition, profit has also fallen due to cost incurred for correction of previous financial results, and cost increase for enhancement of internal control systems.
- Taiwan subsidiary has enjoyed YoY increase in both sales and profit for increased production as a result of capital investment and increased demand from the customers.

By Segment (million yen)	Wafer Business		Prime Wafer Manufacturing and Sales Business		Semiconductor-related Equipment, Materials, etc., Business		Others, Adjustments		Consolidated Total	
		YoY		YoY		YoY		YoY		YoY
Net sales	10,776	-1.8%	10,058	-15.6%	4,047	+38.7%	-380	—	24,501	-3.8%
Operating income	4,081	+1.7%	1,503	-26.6%	171	-53.3%	-1,038	—	4,717	-18.0%
Operating income ratio	37.9	+1.3pt	14.9	-2.3pt	4.2	-8.3pt	—	—	19.3	-3.3pt
By Company (million yen)	RS		Taiwan Subsidiary		Beijing Subsidiary		Other Subsidiaries <small>Elim. of Intra-co transactions.*</small>		Consolidated Total	
		YoY		YoY		YoY		YoY		YoY
Net sales	9,447	-10.5%	3,464	+ 19.3%	10,058	-15.6%	1,532	—	24,501	-3.8%
Operating income	1,989	-24.4%	1,185	+ 22.0%	1,564	-23.9%	-21	—	4,717	-18.0%
Operating income ratio	21.1	-3.8pt	34.2	+0.8pt	15.5	-1.7pt	—	—	19.3	-3.3pt

# FY12/19 (Cumulative) Factors Affecting Operating Income

- Operating income has suffered a fall in sales of prime wafer business impacted by the slowdown of economy, and a YoY fall in profit for increase in cost for internal system enhancement and cost for correction of previous financial results.

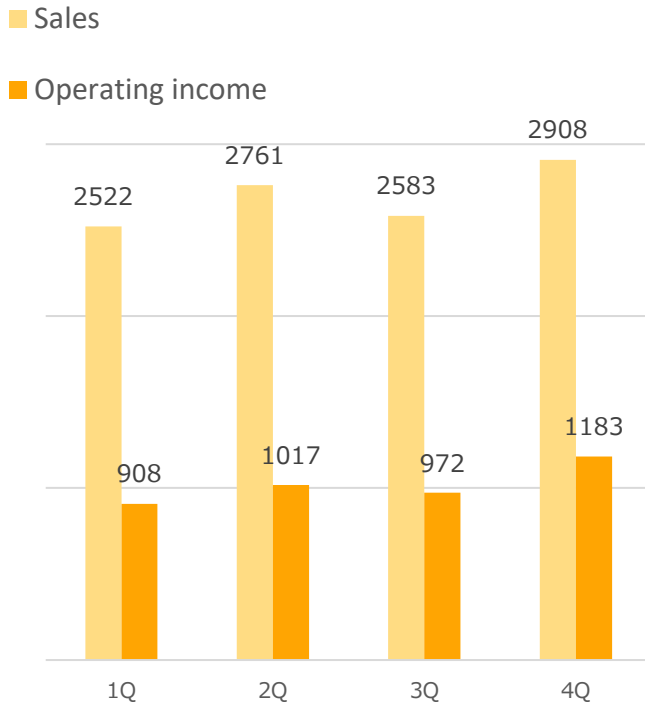


← Affecting factors →

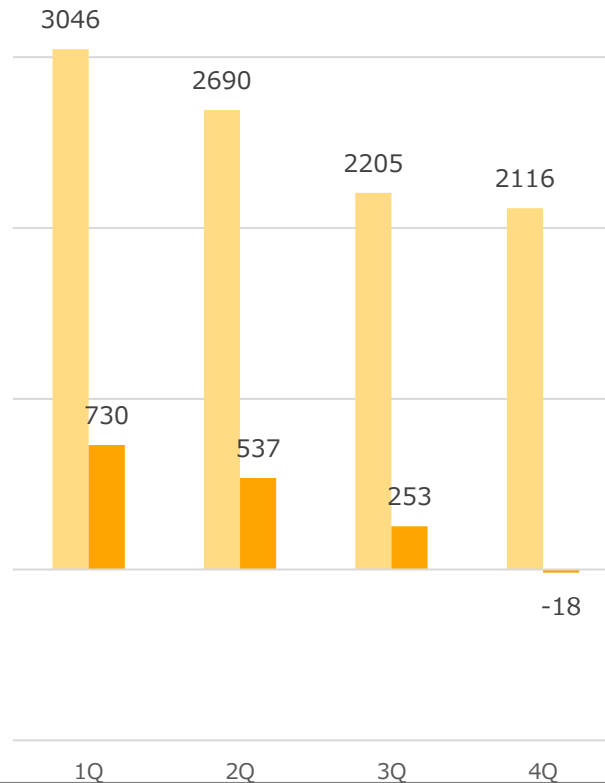
# FY12/19 Quarterly Result Chart by Segment

- Wafer business is showing a stable trend for both sales and profit, from increase in demand from the customers.
- Prime wafer business has suffered a temporary decrease in sales affected by the slowdown of economy. R&D has begun for mass production of 12-inch prime wafers, with medium to long-term growth of the semiconductor market in sight.
- Semiconductor-related equipment and materials, etc. are stagnating from the impact of the fall in capital investment in the semiconductor market.

## Wafer business

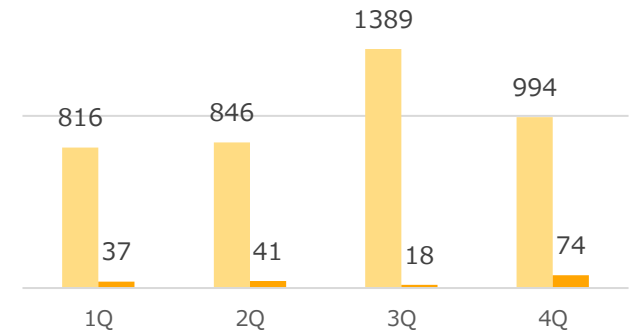


## Prime wafer business



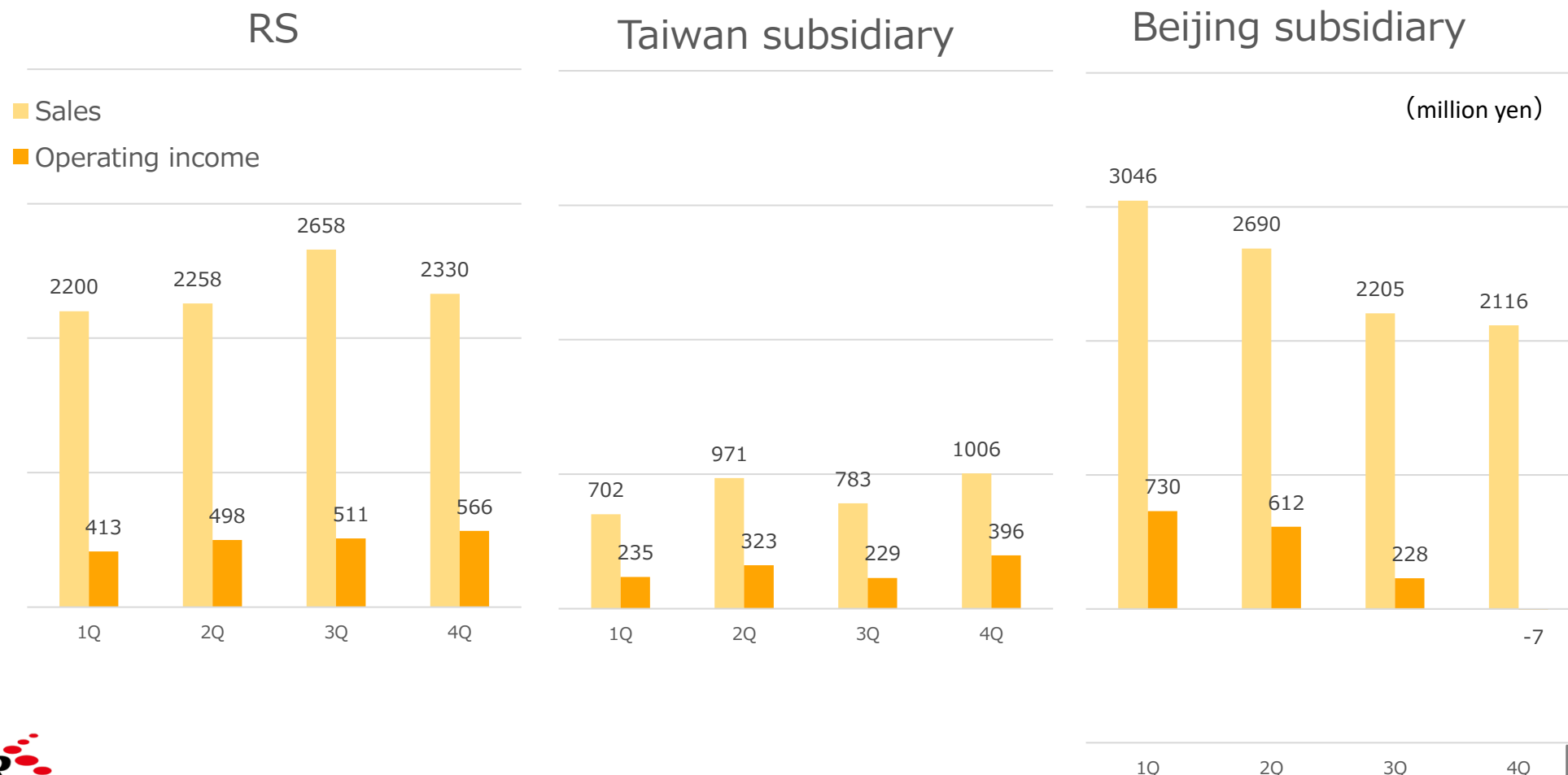
## Semiconductor-related equipment and materials, etc.,

(million yen)



# FY12/19 Quarterly Result Chart by Company

- RS and Taiwan subsidiary are showing stable trend for both sales and profit based on strong demand from the customers.
- Beijing subsidiary is suffering temporary decrease in sales affected by the slowdown of economy. R&D has begun for mass production of 12-inch prime wafers, with medium to long-term growth of the semiconductor market in sight.



# Balance Sheet and Cash Flow

- Turning DG Technologies into a subsidiary, receipt of contribution and subsidies from Dezhou City Government, and the application of IFRS 16 (Leases) on overseas subsidiaries has resulted in an increase in Total Assets and Total Liabilities and net assets.
- Cashflow from investment activities has increased from the new plant construction investment in Dezhou City.

## Consolidated balance sheet

(million yen)	FY12/18	FY12/19
<b>Assets</b>		
Current assets	26,074	32,760
Cash and cash equivalents	14,879	22,156
Notes and account receivable - trade	6,958	6,047
Merchandise and finished goods	1,343	1,713
Non-current assets	10,516	15,873
Property, plant, and equipment	8,963	14,635
Intangible assets	1,099	732
Investment and other assets	453	506
<b>Total Assets</b>	<b>36,591</b>	<b>48,634</b>
<b>Liabilities</b>		
Current liabilities	4,979	7,252
Notes and account payable - trade	1,554	1,614
Interest bearing debts	976	1,730
Non-current liabilities	2,474	5,400
Long-term loans payable	1,848	2,232
<b>Total Liabilities</b>	<b>7,453</b>	<b>12,652</b>
Net assets	29,137	35,981
<b>Total Liability and Net Assets</b>	<b>36,591</b>	<b>48,634</b>

## Cash flow

(million yen)	FY12/18	FY12/19
Cash flow from operating activities	2,669	9,015
Cash flow from investing activities	-22	-5,571
Cash flow from financing activities	9,550	4,206
Effect of exchange rate changes on cash and cash equivalents	-461	-404
Exchange gain on cash and cash equivalents	11,736	7,246
Cash and cash equivalents at beginning of year	2,916	14,652
Cash and cash equivalents at end of year	14,652	21,899

# FY12/19 Efforts

- Converted DG Technologies into a 100% subsidiary in January 2019, to enhance semiconductor-related equipment and component, etc., business.
- Construction of a new prime wafer plant underway at Dezhou, Shandong.

## Conversion of DG Technologies into a subsidiary



<b>Company Name</b>	DG Technologies Co., Ltd.
<b>Established</b>	October 26, 1981
<b>Business</b>	Manufacture and sale of consumable parts for semiconductor manufacturing equipment
<b>Location</b>	3-4 Sunayama, Kamisu-shi, Ibaraki
<b>Capital</b>	JPY 100,000 thousand (as of June 30, 2019)
<b>President &amp; CEO</b>	Nagayoshi Ho

## New prime wafer plant under construction

- Construction of a new plant for Shandong GRITEK (Consolidated subsidiary of RS in Dezhou, Shandong)
- Completion planned for Sep. 2020.



(Dec. 20, 2019)



## 3. Prime Wafer Business in China

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# Changes to the Investment Plan in China

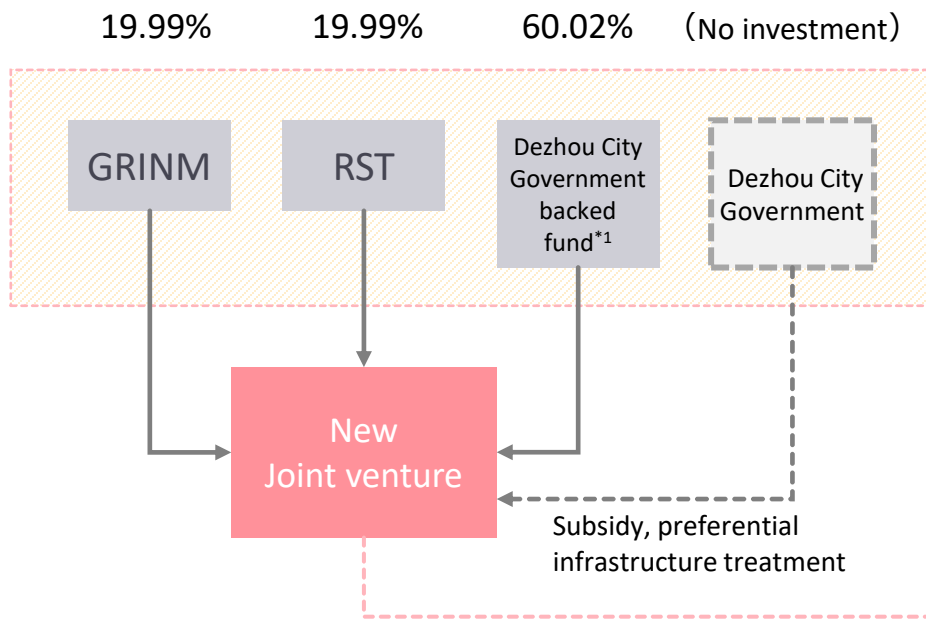
- Demand for 12-inch prime wafers is expected to increase more than previously anticipated, accompanying the growth in semiconductor market.
- To respond to the above, partial changes have been made to the investment plan in China. (A decision to partially defer the plan to increase production of 8-inch prime wafers, and to make an early advance into the 12-inch wafer business.)

	Previous investment plan	New investment plan * Disclosed Dec. 18, 2019
Business environment	<ul style="list-style-type: none"> <li>◆ Growth in power semiconductor demand is expected accompanying the growth in home appliance and automobile market.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Situation has changed where demand for 12-inch wafers is expected to increase more than previously anticipated, accompanying the growth of the semiconductor market.</li> </ul>
Investment strategy	<ul style="list-style-type: none"> <li>◆ Establish global quality in 8-inch prime wafers then enter 12-inch wafer business.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Partially review plans to install additional capacity for 8-inch wafers,</li> <li>◆ Decide on earlier advance into 12-inch wafer business.</li> </ul>
Investment plan	<ul style="list-style-type: none"> <li>◆ 8-inch prime wafer production capacity of 220,000 wafers/month in 2021. (70,000 existing + 150,000 additional wafers)</li> </ul>	<ul style="list-style-type: none"> <li>◆ 8-inch prime wafer production capacity of 120,000 wafers/month in 2021. (70,000 existing + 50,000 additional wafers)</li> <li>◆ Start R&amp;D for mass production of 12-inch prime wafers → Install a test line: (10,000 wafers/month), target to achieve high-quality and mass production.</li> <li>◆ Make investment for production base in China for 12-inch reclaimed wafer business.</li> </ul>

# Business Scheme for 12-inch Silicon Wafers in China

- Have set up a new joint venture with the City of Dezhou, and others.
- Initial risk associated with the entry into 12-inch silicon wafer business is suppressed by confining our initial stake.
- Start with a test line for 10,000 wafers/month and then aim for mass production of 300,000 wafers/month.

## Investment scheme of the J/V



## Joint venture agreement

- Joint venture agreement concluded among the 4 parties.
- There are 3 investors (GRINM, RST, and Dezhou City Government Fund)
- Dezhou City Government to provide support for infrastructure, etc.
- President of RST appointed concurrently as president of the new joint venture.

## Business contents

- 12-inch prime wafer business (manufacturing, sales, development)
- 12-inch reclaimed wafer business\*2

\*1. Dezhou Huida Semiconductor Equity Investment Fund Partnership

\*2. Please refer to P20 Decision to Invest in Reclaimed Wafer Business in China for details.

## 4. Reclaimed Wafer Business

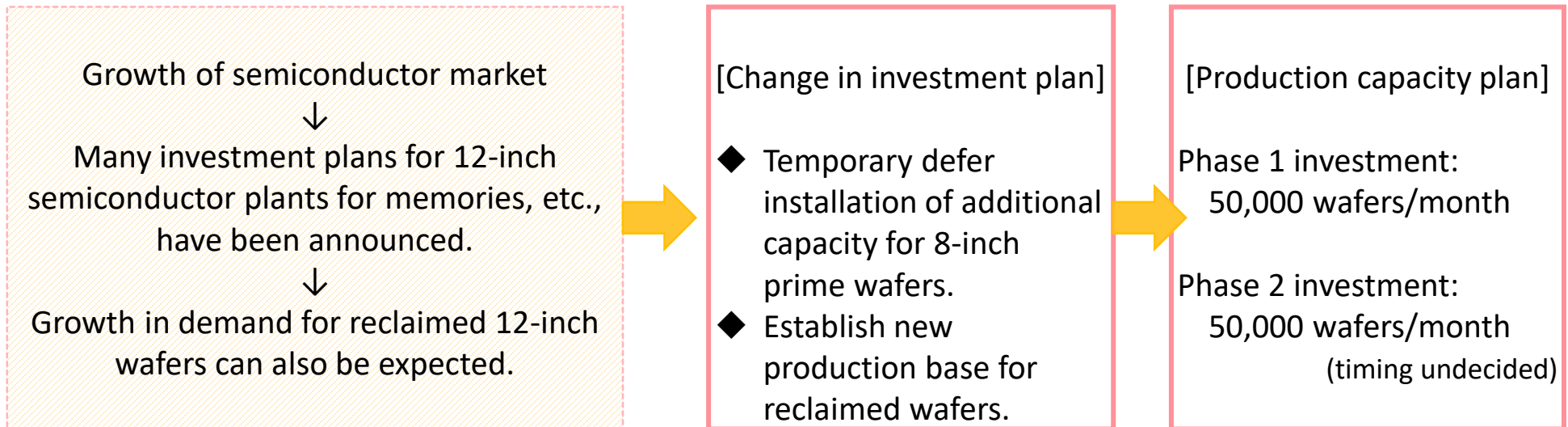
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# Decision to Invest in Reclaimed Wafer Business in China

- Demand for reclaimed wafers is expected to increase, accompanying the growth of the semiconductor market.
- Decided to establish a new production base in China based on the expected increase in reclaimed wafer demand.
- Plan for 50,000 wafers/month as Phase 1 investment for the new production base. On-stream in 2022.

## Environment for reclaimed wafer business

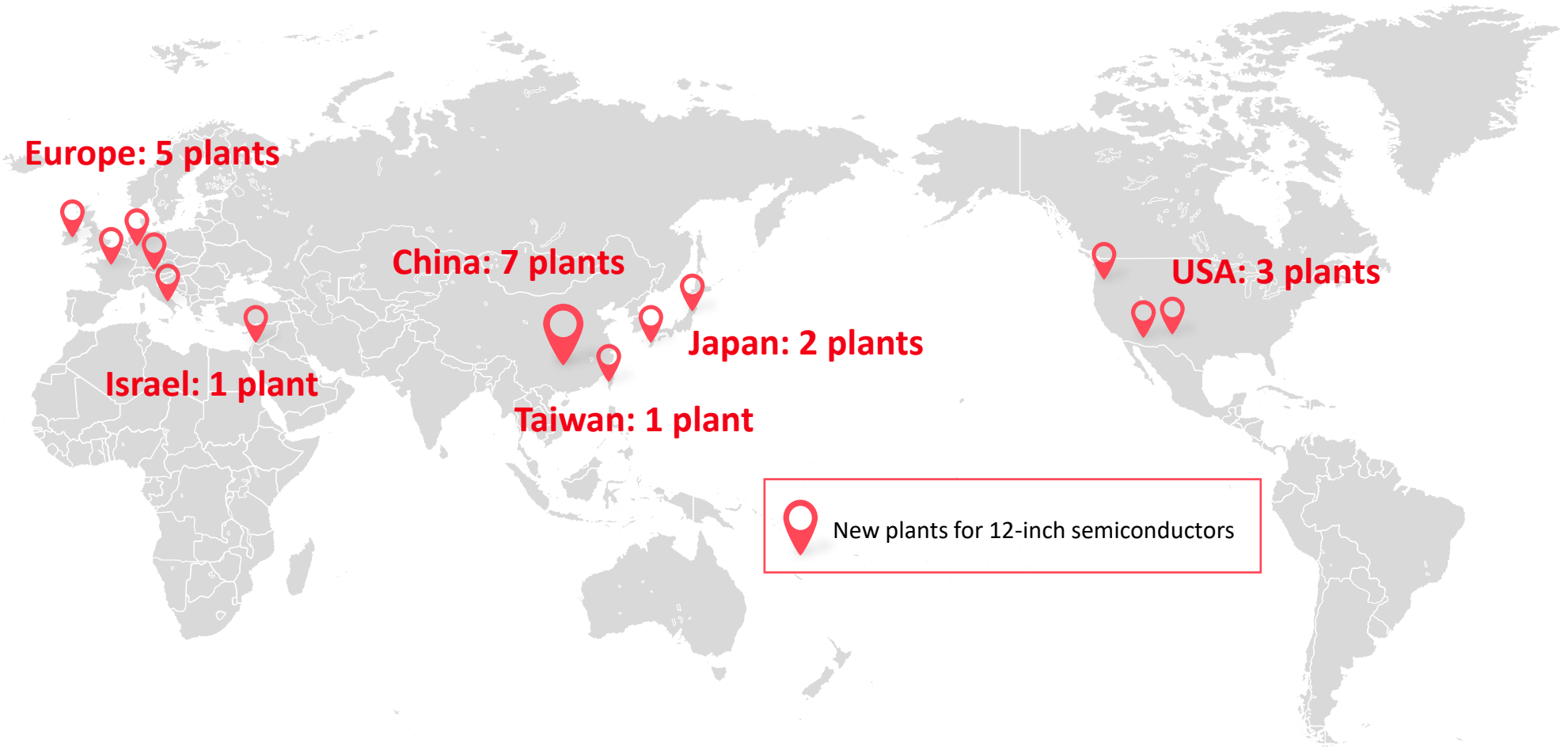
## Capital investment decision made for a new production base in reclaimed wafer business



# New Demand in Reclaimed Wafer Business:

## Plans to construct new 12-inch semiconductor plants

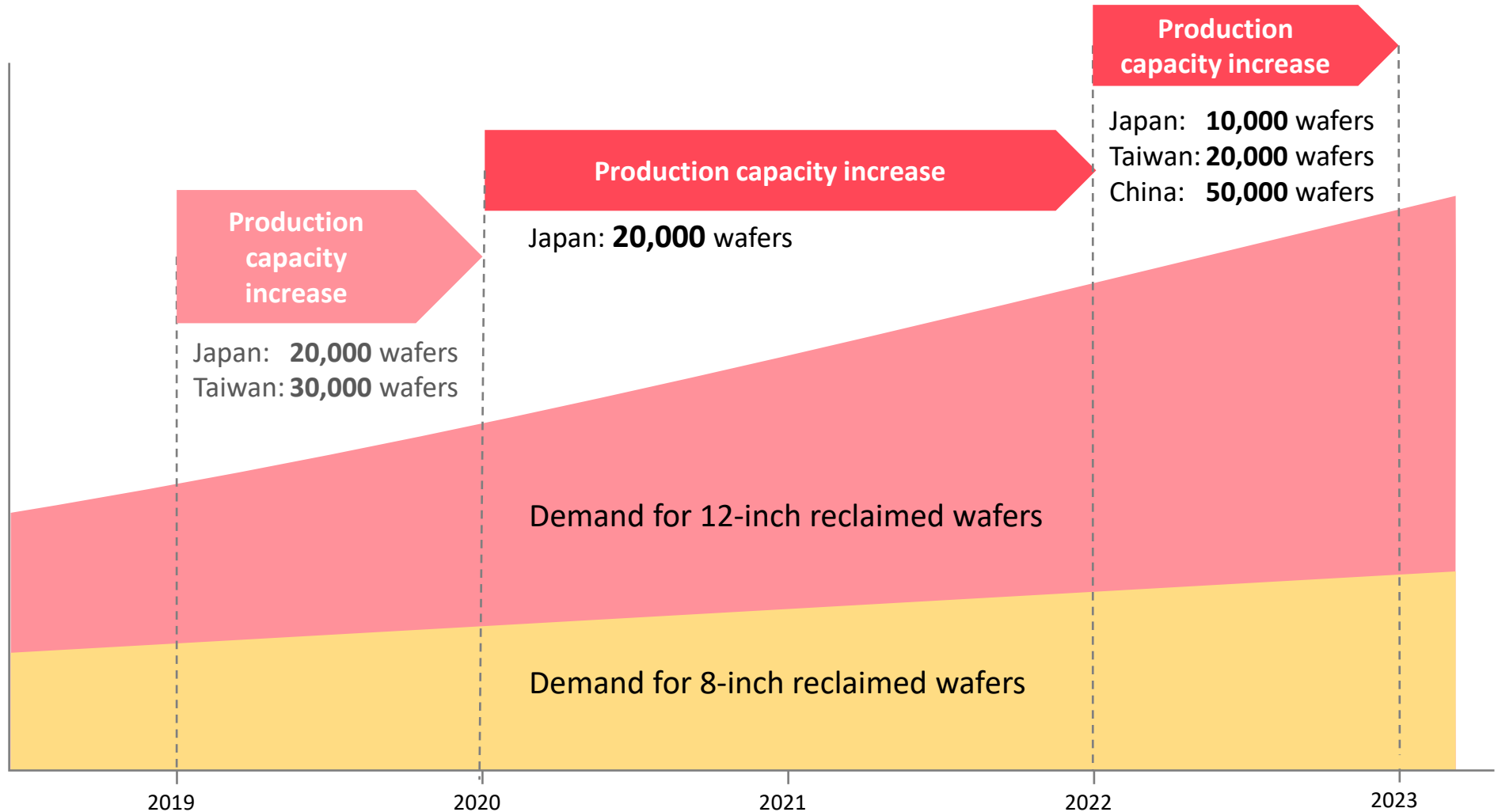
- There are plans to construct new semiconductor plants to cope with the high demand for semiconductors for computerization of automobiles (in addition to digitization in automobiles, for EV and self-driving), etc., in Europe, USA, Japan, etc.
- Respond to new reclaimed wafer demand from new plants, by capital investment in Japan, Taiwan, and China.



Note: RST survey

# Reclaimed Wafer Demand Outlook: Expansion to continue focused on 12-inch

- Capacity enhancement of 30,000 wafers in Japan, 20,000 in Taiwan, and 50,000 in China are being planned between 2020 and 2022 to meet the expanding demand for reclaimed wafers.



Note: RST survey



## 5. Medium-Term Management Plan (2020 to 2023)

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# Summary of Medium-Term Management Plan (4 years)

- In the reclaimed wafer business, in addition to conventional bottle-neck investment, new investment for production bases will be made to respond to expansion of demand.
- New 8-inch prime wafer plants are expected to come on-stream sequentially from autumn 2020. R&D for mass production of 12-inch prime wafers will run concurrently.
- Target for net sales of 31.6 billion yen, operating income of 6.8 billion yen, and net income of 4.0 billion yen in FY2023.

	FY12/19	FY12/20	FY12/21	FY12/22	FY12/23
	Actual	Plan	Plan	Plan	Plan
<b>Net sales</b>	24,501	22,700	27,000	29,800	31,600
<b>Operating income</b>	4,717	3,200	4,800	6,100	6,800
<b>Operating income ratio</b>	19.3%	14.1%	17.8%	20.5%	21.5%
<b>Ordinary income</b>	5,416	3,400	5,000	6,400	6,900
<b>Ordinary income ratio</b>	22.1%	15.0%	18.5%	21.5%	21.8%
<b>Net income attributable to owners of the parent</b>	3,035	2,400	3,000	3,600	4,000
<b>Net income per share (Yen)</b>	236.98	187.07	233.84	280.61	311.79

Projected net income per share is determined based on the number of outstanding shares as of end-FY12/19.

# Capital Investment Plan: Reclaimed Wafer Business

- In the midst of expansion in global semiconductor demand, we have decided to invest in a new production base in China, in addition to capital investments in Japan and Taiwan.

## Japan

**Total investment: JPY 1.4 bil.**

- Expand production capacity for 12-inch reclaimed wafers.
- 2020 to 2022: JPY 1.4 bil. (30,000 wafers)

**12-inch reclaimed wafer production capacity (wafers, monthly)**

2019 → 2021 → 2022  
**250k → 270k → 280k**

FY2020	FY2021	FY2022
JPY 0.2 bil.	JPY 1 bil.	JPY 0.2 bil.

## Taiwan

**Total investment: JPY 1.4 bil.**

- Expand production capacity and conduct refinement for 12-inch reclaimed wafers.
- 2020 to 2022: JPY 1.4 bil. (20,000 wafers)

**12-inch reclaimed wafer production capacity (wafers, monthly)**

2019 → 2021 → 2022  
**150k → 150k → 170k**

FY2020	FY2021	FY2022
JPY 0.2 bil.	JPY 0.2 bil.	JPY 1 bil.

## China

**Total investment: JPY 3.8 bil.**

- Investment to construct a new 12-inch reclaimed wafer production base.
- Phase 1 investment (2020 to 2022): JPY 3.8 bil. (50,000 wafers)

**12-inch reclaimed wafer production capacity (wafers, monthly)**

2019 → 2021 → 2022  
**0k → 0k → 50k**

FY2020	FY2021	FY2022
JPY 0.5 bil.	—	JPY 3.3 bil.

Phase 1 investment

# Capital Investment Plan: Prime Wafer Business

- Temporarily deferred capacity increase plans for 8-inch prime wafers (150k wafers/month → 50k wafers/month). No change in start-up schedule.
- R&D started for 12-inch prime wafer mass production.

## China

### Total investment: JPY 14.0 bil.

- Expand production capacity for 8-inch prime wafers.
- Completion ceremony in Sep. 2020.

#### 8-inch prime wafer production capacity (wafers, monthly)

2020 → 2021  
**70k** → **120k**

Investment period: 2019 to 2020, Operation to start sequentially from Autumn, 2020

FY2020	FY2021	FY2022
JPY 14.0 bil.	Not decided	Not decided

## China

### Test line investment: JPY 5 bil.

- R&D for 12-inch prime wafer mass production.
- Aim for mass production set-up for 300k wafers through a test line for 10k.

#### 12-inch prime wafer production capacity (wafers, monthly)

2020 → 2021 → 202X  
**0k** → **10k\*** → **300k**

FY2020	FY2021	FY2022
JPY 0.5 bil.	JPY 4.5 bil.	Not decided

\*Test line for mass production R&D

# FY12/20 Financial Result Outlook

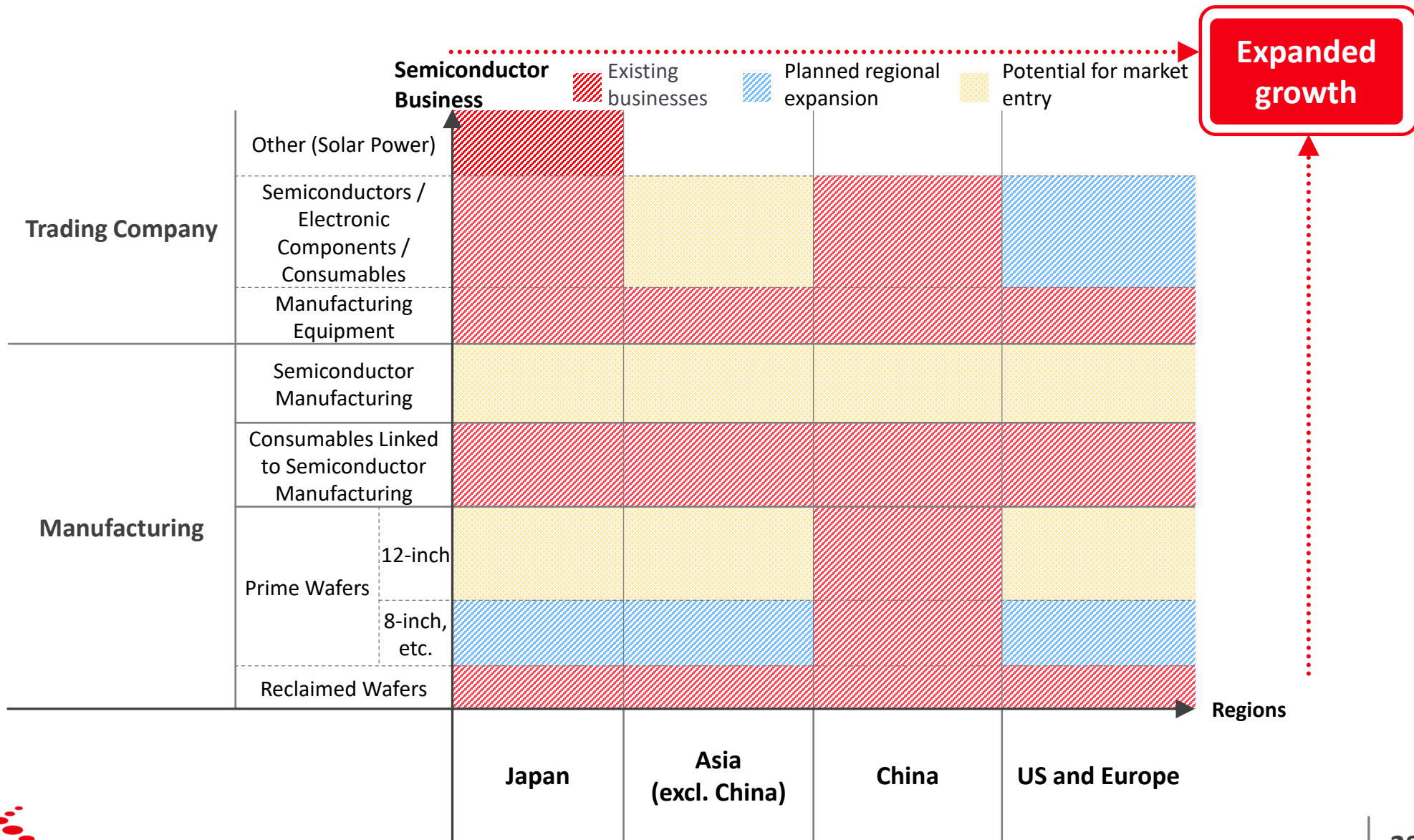
- Consolidated results expected to show YoY decrease in income and profit caused by decrease in income and profit at Beijing subsidiary, foreign exchange impact on RS and Taiwan subsidiary, and increase in various costs.
- Although RS is expecting a firm demand for reclaimed wafers, YoY decrease in income and profit is expected from assuming strong YoY Japanese yen exchange rate transition and from increase of various costs.
- Although firm demand for reclaimed wafers is expected for Taiwan subsidiary, YoY increase in income but decrease in profit is expected from depreciation on capital investments and increase in various costs.
- YoY decrease in income and profit is expected for Beijing subsidiary, impacted by the slowdown of economy and effects of plant relocation.

(million yen)	FY12/19 (Jan. to Dec. 2019)	FY12/20 (Jan. to Dec. 2020)	YoY	
	Full year actual results	Full year forecast	YoY	YoY%
Net sales	24,501	22,700	-1,801	-7.4%
Operating income	4,717	3,200	-1,517	-32.2%
Operating income ratio	19.3%	14.1%	-5.2pt	
Ordinary income	5,416	3,400	-2,016	-37.2%
Ordinary income ratio	22.1%	15.0%	-7.1pt	
Net income attributable to owners of the parent	3,035	2,400	-635	-20.9%
Net income per share	236.98 yen	187.07 yen	-49.91	-21.1%
Annual dividend	15 yen	15 yen	—	—

(million yen)	RS		Taiwan subsidiary		Beijing subsidiary		Other subsidiaries	Consolidated total	
		YoY		YoY		YoY	Elim. of Intra-co transactions.*		YoY
Net sales	9,300	-1.6%	4,000	+15.5%	6,900	-31.4%	2,500	22,700	-7.4%
Operating income	1,700	-14.5%	1,000	-15.6%	200	-87.2%	300	3,200	-32.2%
Operating income ratio	18.3%	-2.8pt	25.0%	-9.2pt	2.9%	-12.6pt	-	14.1%	-5.2pt

# RS Technologies' Aims

- Steady expansion of business domains and regions



# Appendix

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# Strengths of CEO Nagayoshi Ho

- President and CEO Nagayoshi Ho has knowledge gained from over 20 years in Japan, as well as strengths in worldwide sales, business networking, partnerships, and financing.
- President Ho has assembled a team of professionals from a broad range of fields including advanced technology and finance.



Nagayoshi Ho, center front (taken September 2016 at TSE)

## Nagayoshi Ho

Born 1970 in Fujian Province, China

Completed Josai International University Graduate Program

Specialty fields:

M&A, business alliances

(successful M&As with more than 10 companies)

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1998 Established Eiki Shoji Co., Ltd.

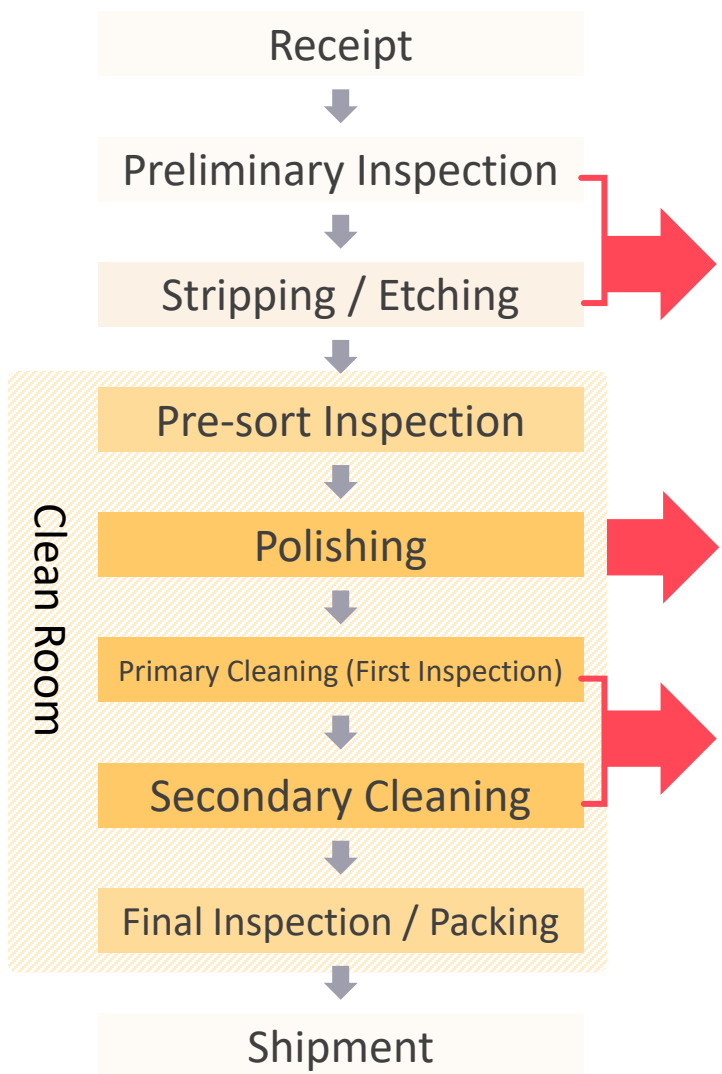
2010 Established and appointed president of RTS  
(current position)  
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Favorite maxim: Where there is a will, there is a way  
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### Supplementary information:

Nagayoshi Ho came to Japan after graduating high school. He has invested in more than 20 companies in Japan and abroad. In addition to semiconductors, he has experience investing in a range of businesses, including investment funds, trade, hotels, IT, and agriculture. He has traveled the world promoting his belief that Japanese manufacturing is the best in the world.

# Reclaimed Wafer Business (1)



## Strength 1

### Able to strip all films

- Removed using chemical processes to minimize damage to surfaces

▶ Reclaimed many times ▶ Potential for greater cost reductions

Special (chemical) technique inherited from Rasa Industries



Polishing of scratches and uneven areas on the surface to make it smoother

## Strength 2

### Removal of metallic impurities

- Cleaning to remove minute particles and dirt on the wafer surface

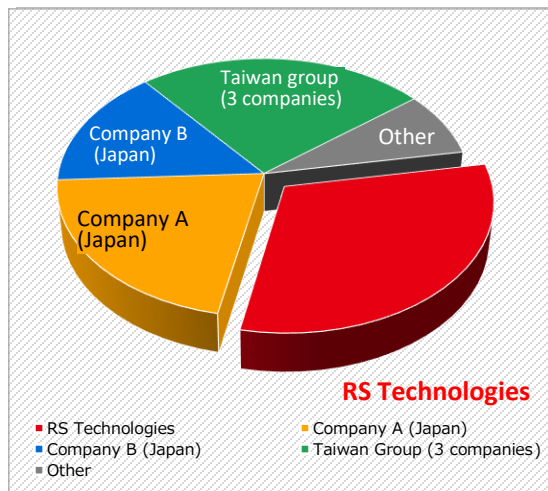
+ Removal of metallic impurities  
Particular strength in removing copper (Cu)



# Reclaimed Wafer Business (2)

## Increasing Share of the Reclaimed Market

### RS Technologies' Share of the 12-inch Reclaimed Market



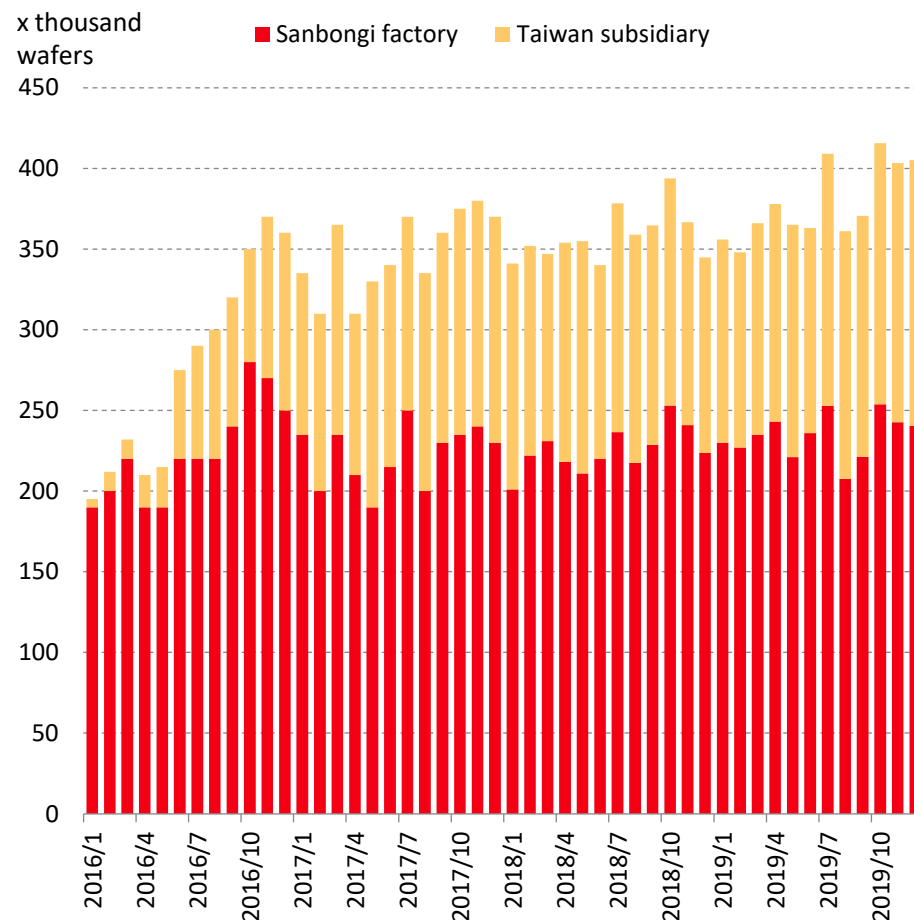
Note: RTS survey

	FY12/15 1H	FY12/15 2H	FY12/16	FY12/17	FY12/18	FY12/19
RST Group Production Capacity	180,000 wafers	240,000 wafers	280,000 wafers	300,000 wafers	340,000 wafers	400,000 wafers
RST Group Market Share	19%	24%	29%	30%	31%	33%

Note: RTS survey

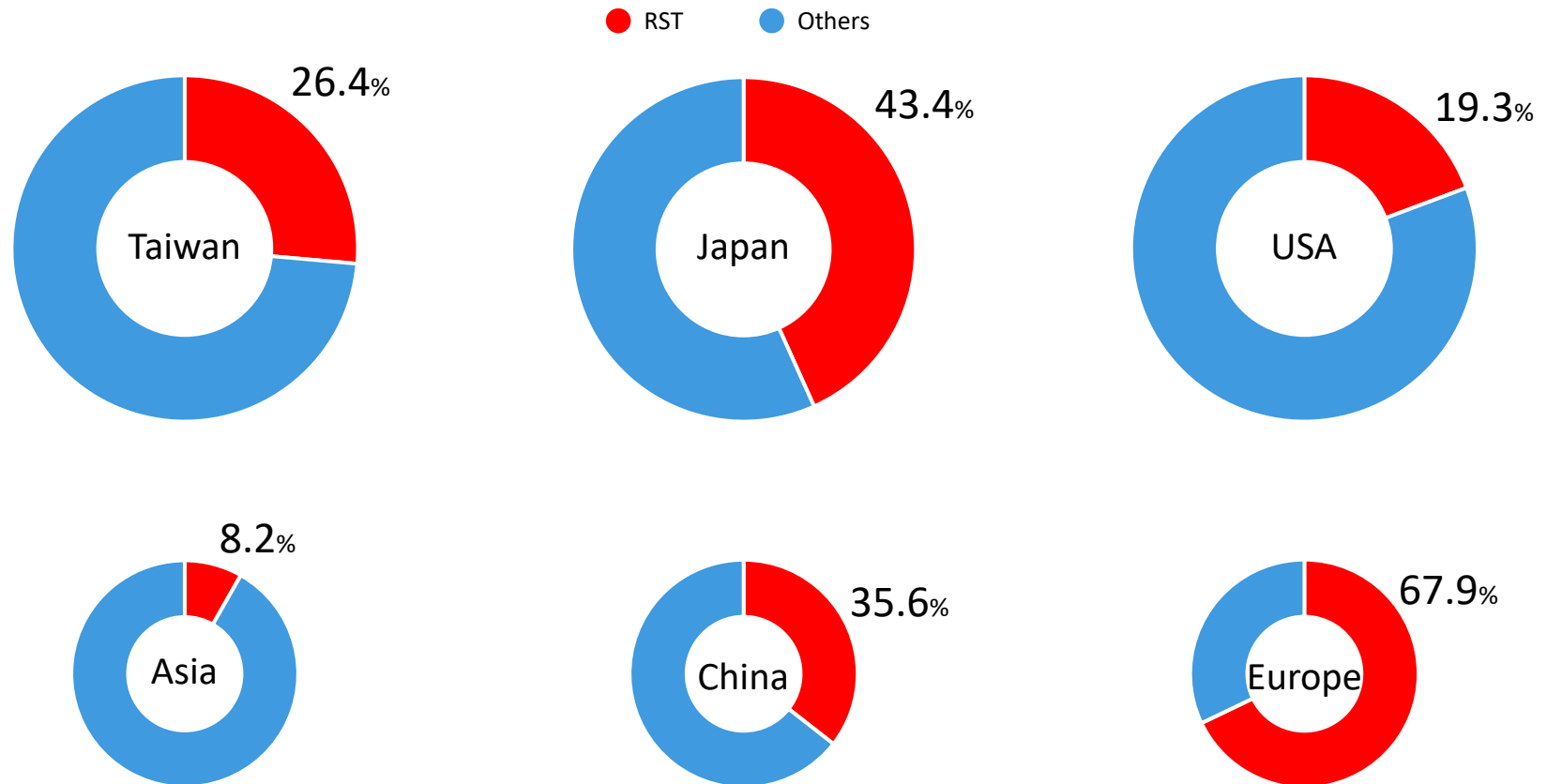
## Shipments from the Sanbongi Factory and Taiwan Subsidiary (2016-2019)

### Shipments of 12-inch Wafers from the Sanbongi Factory and Taiwan Subsidiary



# RST Share of Reclaimed Wafers by Region: 12-inch

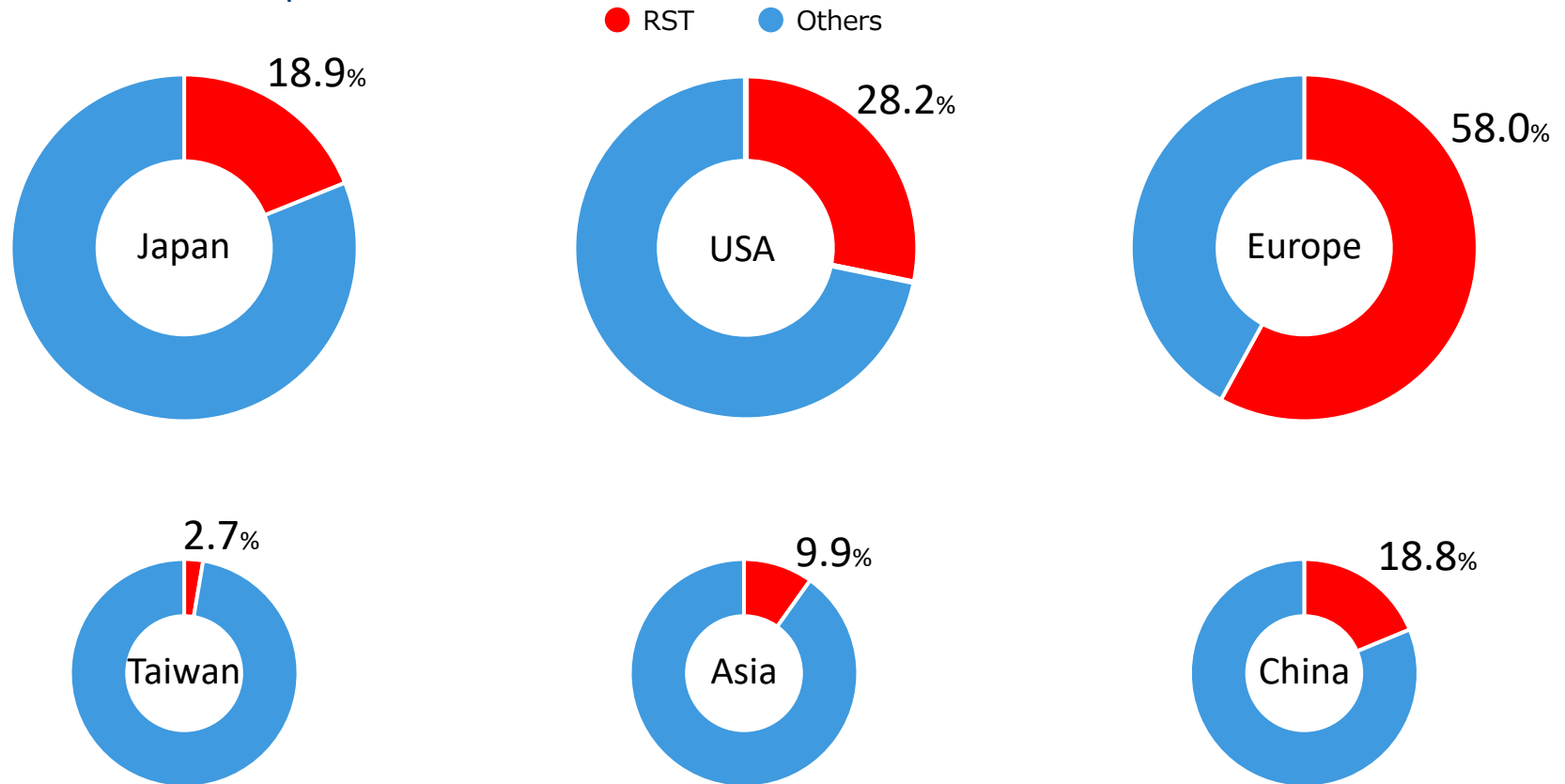
- RST holds the global top share in the reclaimed wafer market.
- Factories are in Miyagi Prefecture (Sanbongi Factory) and Taiwan (Tainan Factory).
- Demand for reclaimed wafers is large and both Sanbongi and Tainan Factories continue to operate at full capacity.



Notes: Based on wafer numbers reported in a study conducted by RST (fiscal 2018)

# RST Share of Reclaimed Wafers by Region: 8-inch

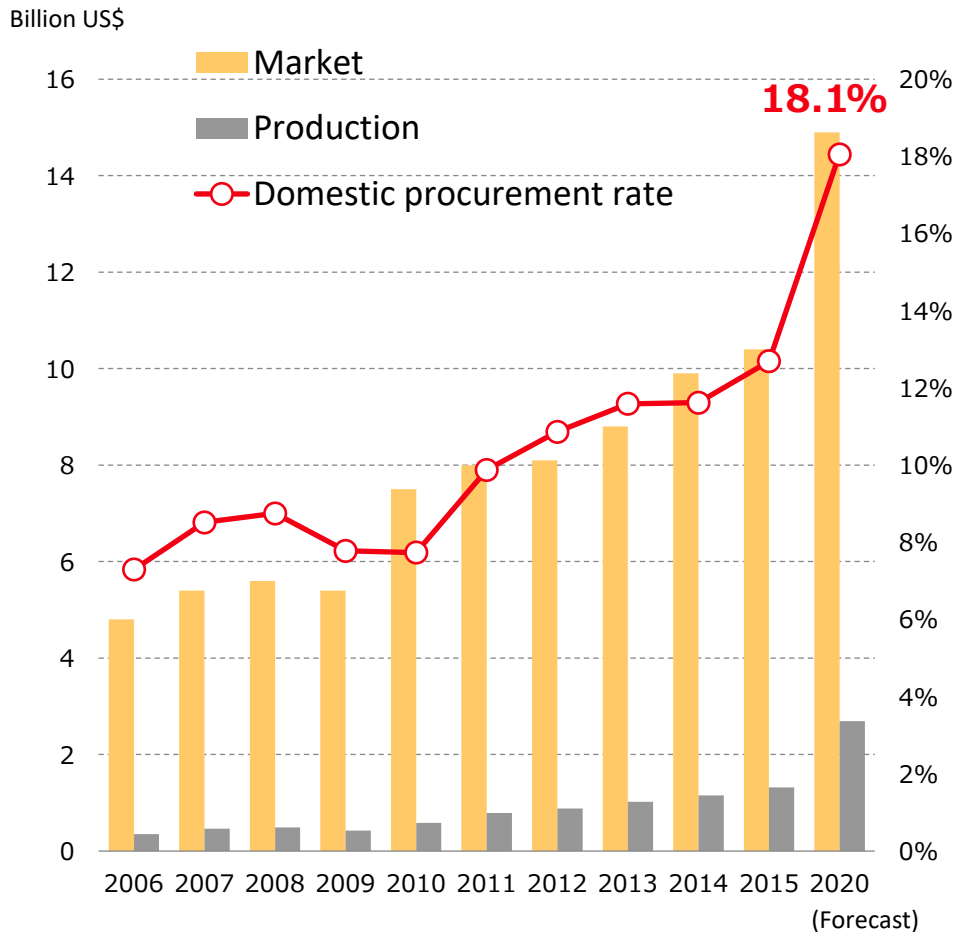
- Factory in Miyagi Prefecture (Sanbongi Factory).
- Customers for 8-inch are centered on devices for automobile systems, power semiconductors, etc., that are not affected by business conditions.
- Market share stands slightly less than 60% for European manufacturers, slightly less than 30% in USA, and slightly less than 20% in Japan and China.



Notes: Based on wafer numbers reported in a study conducted by RST (fiscal 2018)

# Regarding China Manufacturing 2025

## Trend in China's Semiconductor Market and Production



Source: SEMI, August 2017 Issue, Report 1

China's semiconductor consumption has grown to account for 40% of the world's total. However, its domestic production rate is around 15% of the consumption.



Raising the domestic production rate has become an important policy issue.

June 2014

Promotion of a National IC Industry Development Guidelines

May 2015

## China Manufacturing 2025

[Excerpt] (Made in China 2025)

China is aiming to improve the self-sufficiency rate for ICs in the nation to 40% in 2020, and boost the rate further to 70% in 2025.

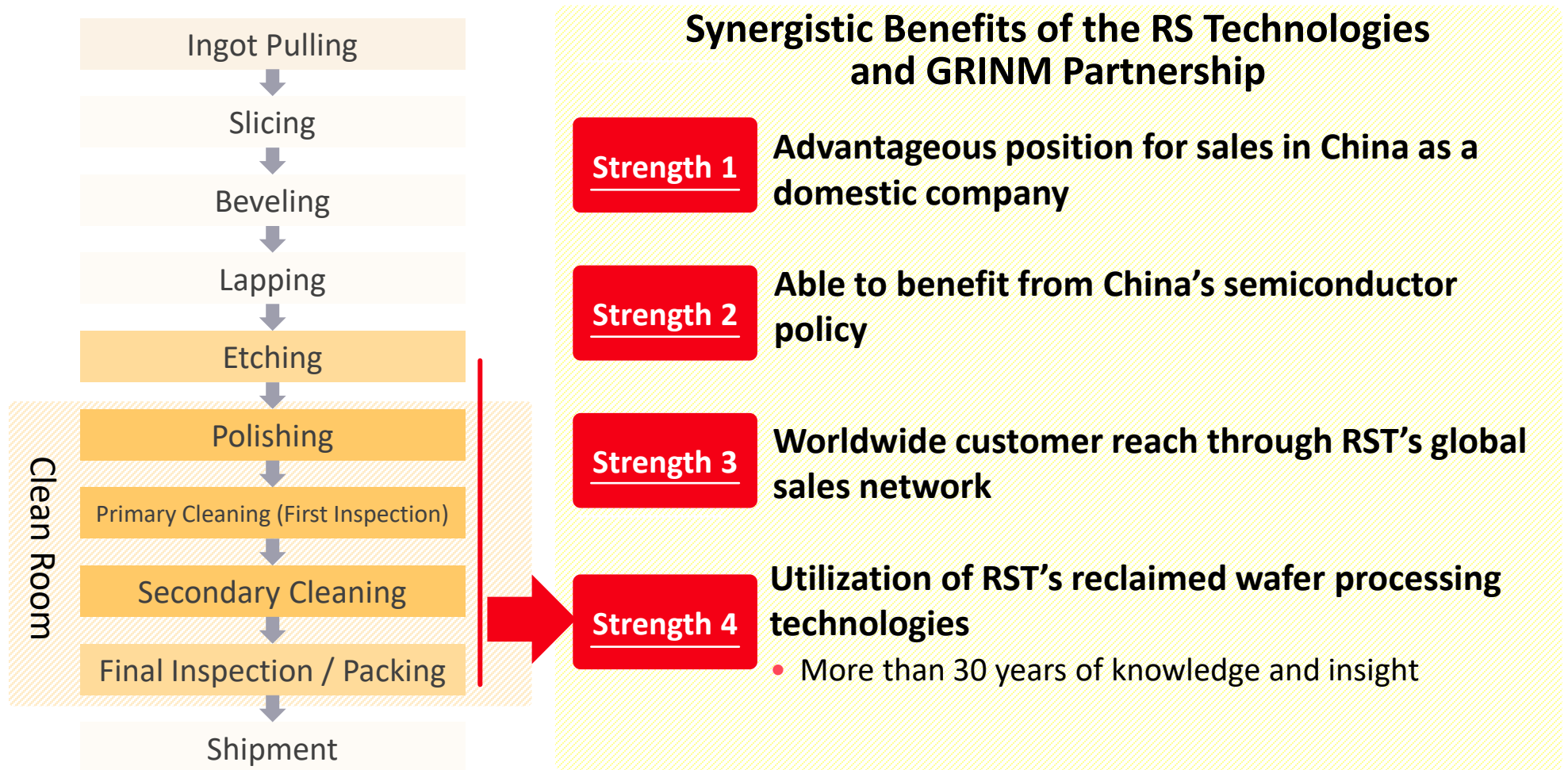


The target is domestic production rate of 40% by 2020, and 70% by 2025.

**Current condition:**  
Issues concerning quality remain despite rapid enhancement of production capacity.

# Entry into Prime Wafer Business

- RS Technologies has established a joint venture with Chinese state-owned company General Research Institute for Nonferrous Metals (GRINM) and is developing its semiconductor business as a domestic Chinese company.





# Regarding our Joint Venture Partner in China

- Established in 1952, GRINM is the largest state-owned research institute in the field of non-ferrous metals in China.
- Out of the roughly 13 million companies in China, about 300 thousand are state owned.  
Out of these, about 88 are directly owned by the central national government and GRINM is one of these.
- GRINM is a research institute through which government, industry and science come together. Nonferrous metal policies of the central national government are transmitted through GRINM.
- GRINM established operating companies that serve as evidence of its successful research. Currently, 34 of these companies exist.
- GRITEK, a subsidiary of Beijing GRINM RS Semiconductor Materials Co., Ltd. (BGRS), an RST joint venture, was established as GRINM's first operating company in 2001.



# Partnership with the City of Dezhou in Shandong, China

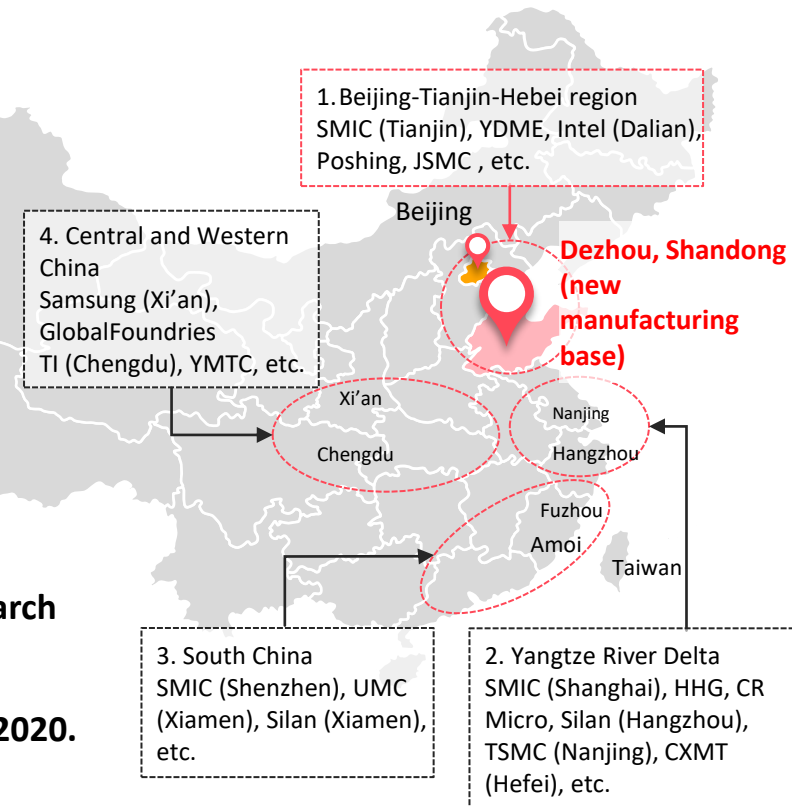
## Subsidiary established for factory construction

### Background of Partnership

1. Worldwide invitations for major semiconductor manufacturers to set up factories in the area are gaining momentum. Several semiconductor manufacturers are located nearby, making the area a prime location (see image on the right)
2. GRITEK will be able to offer plentiful benefits, including low-cost company housing and reduced utility expenses.
3. Science and engineering universities are located nearby, providing favorable circumstances for acquiring superior human resources
4. Land expandable to a maximum of about 500,000m<sup>2</sup> (initially 200,000m<sup>2</sup>) has been procured, allowing for adequate response to future business progress in China

### History and current status

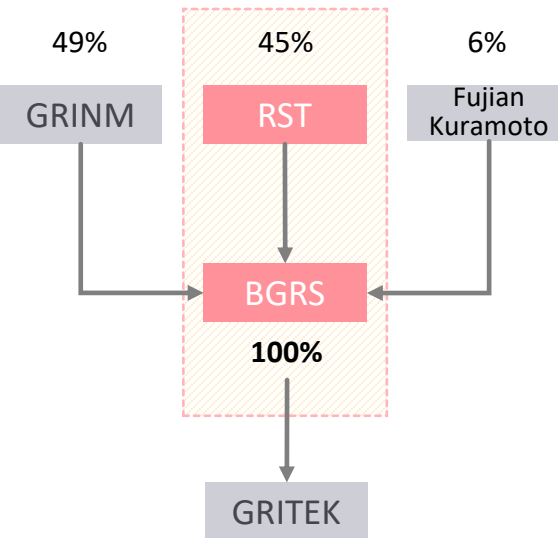
1. New company (GRITEK) established on August 23, 2018.
2. Ground-breaking ceremony for new factory in City of Dezhou held on March 19, 2019.
3. Buildings currently under construction. Scheduled for completion in 1Q 2020.
4. A four-party joint venture agreement concluded with General Research Institute for Nonferrous Metals (GRINM), Dezhou Huida Semiconductor Equity Investment Fund Partnership, and the City of Dezhou in Shandong in Dec. 2019.



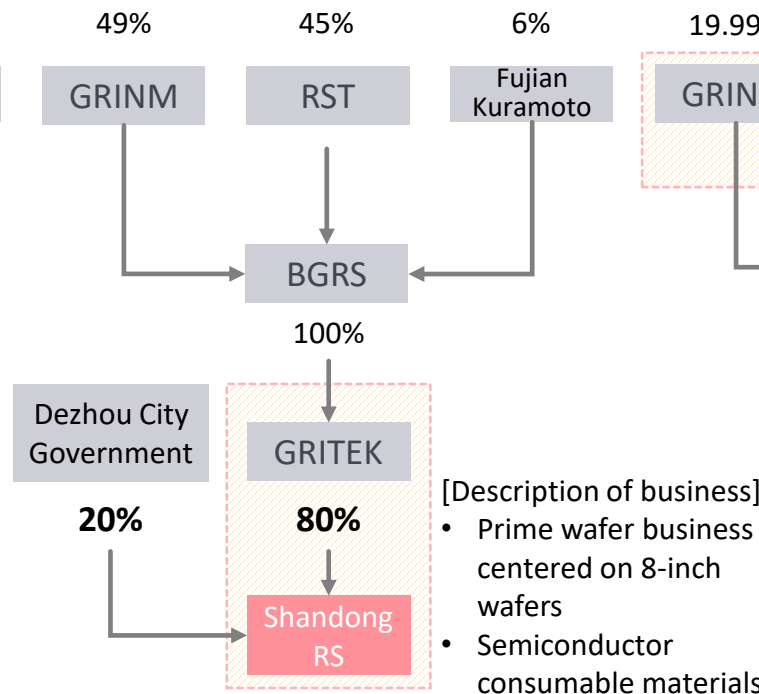
# China Business Investment Scheme

- To undertake new 12-inch wafer business, a new joint venture was established with GRINM, the City Government of Dezhou, etc. Initial risk has been suppressed by confining our initial stake.
- Prime wafer business undertaken by the new joint venture aims to establish a mass production system of 300,000 wafers per month, starting with a test line of 10,000 wafers per month. As Phase 1 investment for the reclaimed wafer business, the start of 50,000 wafers per month is targeted.

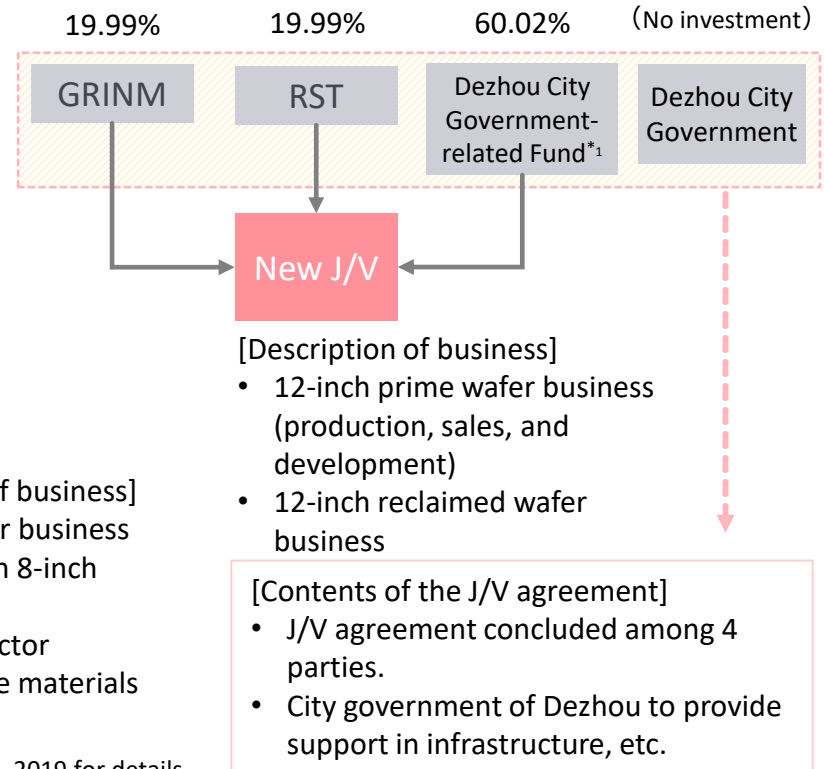
## 8-inch wafer business Investment scheme from Jan. 2018



## (Existing) 8-inch wafer business Current investment scheme



## (New) 12-inch wafer business Investment scheme<sup>\*2</sup>



\*1. Dezhou Huida Semiconductor Equity Investment Fund Partnership.

\*2. Please refer to the "Notice regarding partial change of investment plan in China" disclosed on Dec. 18, 2019 for details.

Listed stakes are the final and in accordance with investment agreements.

# Year-by-Year Results

(million yen)	FY12/13	FY12/14	FY12/15	FY12/16	FY12/17	FY12/18	FY12/19
Net sales	3,475	4,566	5,285	8,864	10,932	25,478	24,501
Gross profit	1,173	1,820	1,852	2,544	4,252	8,366	7,940
Selling, general and administrative expenses	471	654	791	958	1,269	2,615	3,223
Operating income	703	1,166	1,061	1,585	2,982	5,751	4,717
Ordinary income	819	1,247	770	1,444	3,159	6,141	5,416
Net income*	525	664	143	861	2,113	3,620	3,035
Dividend (Yen)	-	-	-	10	5	10	15
Capital investment	338	3,503	4,665	209	95	1,328	4,809
Depreciation	87	103	326	682	714	1,298	1,814
Research and development expenses	1	6	11	85	183	501	449
Number of employees (Regular employees)	152	191	265	373	434	1,159	1,277

\*Net income attributable to owners of the parent company.

# Principal Financial Statements

(million yen)	FY12/13*	FY12/14	FY12/15	FY12/16	FY12/17	FY12/18	FY12/19
<b>Assets</b>							
Current Assets	1,811	2,759	3,732	5,348	7,388	26,074	32,760
Cash and cash equivalent	397	1,190	1,842	1,952	3,243	14,879	22,156
Notes and accounts receivable - trade	681	696	795	2,531	2,916	6,958	6,047
Merchandise and finished goods	396	376	361	348	446	1,343	1,713
Non-current assets	508	4,064	5,845	5,333	4,843	10,516	15,873
Property, plant and equipment	461	3,918	5,667	5,152	4,674	8,963	14,635
Intangible assets	19	15	29	23	19	1,099	732
Investments and other assets	27	130	148	158	149	453	506
<b>Total Assets</b>	<b>2,320</b>	<b>6,823</b>	<b>9,577</b>	<b>10,682</b>	<b>12,231</b>	<b>36,591</b>	<b>48,634</b>
<b>Liabilities</b>							
Current liabilities	960	2,292	2,295	2,993	3,370	4,979	7,252
Notes and accounts payable - trade	138	151	186	283	398	1,554	1,614
Interest-bearing debt	136	827	1,216	1,538	1,276	976	1,730
Non-current liabilities	709	2,934	4,798	4,317	3,335	2,474	5,400
Long-term loans payable	615	2,925	4,079	3,620	2,767	1,848	2,232
<b>Total Liabilities</b>	<b>1,670</b>	<b>5,227</b>	<b>7,093</b>	<b>7,310</b>	<b>6,705</b>	<b>7,453</b>	<b>12,652</b>
<b>Net Assets</b>							
Net assets	649	1,596	2,483	3,371	5,526	29,137	35,981
<b>Total Liabilities and Net Assets</b>	<b>2,320</b>	<b>6,823</b>	<b>9,577</b>	<b>10,682</b>	<b>12,231</b>	<b>36,591</b>	<b>48,634</b>

\*FY12/13 figures are non-consolidated

# Performance by Segment

(million yen)	FY12/13	FY12/14	FY12/15*	FY12/16*	FY12/17*	FY12/18	FY12/19
<b>Net sales</b>							
Wafer business	3,347	4,414	5,107	7,144	9,487	10,973	10,776
Prime wafer manufacturing and sales business	—	—	—	—	—	11,918	10,058
Purchases and sales of semiconductor equipment business	—	—	—	1,654	1,393	2,918	4,047
Other, adjustments	127	151	178	66	52	-331	-380
<b>Segment profit</b>							
Wafer business	916	1,444	1,377	1,765	3,396	4,011	4,081
Prime wafer manufacturing and sales business	—	—	—	—	—	2,048	1,503
Purchases and sales of semiconductor equipment business	—	—	—	230	130	366	171
Other, adjustments	-214	-278	-316	-409	-543	-675	-1,038
<b>Segment assets</b>							
Wafer business	1,337	5,040	6,987	5,657	8,120	9,150	10,336
Prime wafer manufacturing and sales business	—	—	—	—	—	21,313	29,311
Purchases and sales of semiconductor equipment business	—	—	—	1,137	1,305	1,939	3,179
Other, adjustments	982	1,783	2,589	3,887	2,805	4,315	5,806

\*Financial figures for FY12/15, FY12/16 and FY12/17 are revised figures released on March 5, 2019

# Forward-looking Statements

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The content of these materials was prepared based on generally recognized economic potential and certain assumptions considered reasonable by the Company but is subject to revision without notice due to changes in various business environments affecting management.

Materials and information provided for this announcement contain forward-looking statements. This information is based on assumptions pertaining to the current outlook, forecasts and risks, and contains uncertainties that could result in different outcomes.

Even in the case of new information, future events, or other relevant matters, the Company is under no obligation to update or revise the forward-looking statements contained in this material.