

# RS Technologies

**3445**

Tokyo Stock Exchange First Section

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## ■ Summary

### **The Tainan Factory has reached full production capacity. The Company may increase its production capacity further to satisfy strong demand.**

RS Technologies <3445> (hereafter, also “the Company”) is a reclaim service provider for silicon wafers, which are a main part in semiconductor chips. It has factories in Japan and Taiwan and when both factories are operating at full capacity, it has a global production share of approximately 30% (based on the production capacity for the mainstay 12 inch wafers), making it the world’s leading producer of reclaimed wafers.

#### **1. The wafer business achieved an operating income margin of 37.6% in 1Q FY12/17**

In the first quarter of the fiscal year through December 2017, in 1Q FY12/17, the Company’s consolidated net sales grew 49.0% year-on-year (YoY) to ¥2,552mn, and its operating income surged 387.5% YoY to ¥733mn. The wafer business continued to expand YoY, as it did in 4Q FY12/16, and both the Company’s plants, the Sanbongi Factory in Japan and the Tainan Factory run by a subsidiary in Taiwan, operated at full capacity. The profitability of the Tainan Factory improved notably, and the wafer business achieved an operating income margin of 37.6%. FISCO estimates that the operating income margin of the Tainan Factory approached 40%.

#### **2. Business conditions remain good. The global leader in semiconductor wafer reclamation, the Company is receiving requests from customers to increase its supply.**

The global supply of reclaimed and prime wafers is tight, relative to the demand for these wafers, and in 1Q FY12/17, the price of prime wafers increased. Reflecting this price trend, the Company was able to increase its prices for reclaimed wafers for some customers. We expect the global supply of reclaimed prime wafers to remain tight, relative to demand, yet no wafer reclamation company seems likely to increase its production capacity. The wafer reclamation plant operated by the Company’s Taiwan subsidiary appears able to increase its production capacity by removing bottlenecks in its processes, and FISCO believes that the Company’s customers will probably ask the Company to expand its capacity and supply quickly.

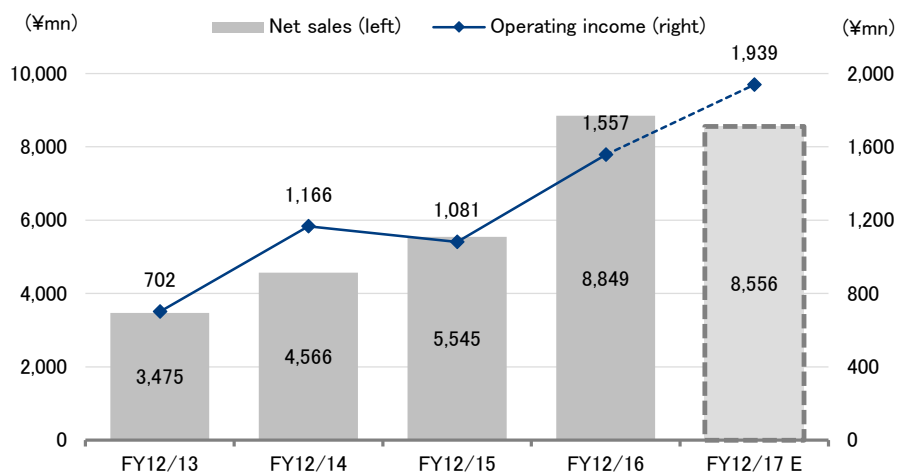
#### **3. Company forecasts for FY12/17 appear conservative. Targets for its medium-term plan of operations may be raised.**

In 1Q FY12/17, the Company achieved a high rate of its sales and profit forecasts for FY12/17, so it may raise its forecasts soon. Its performance in the final three quarters will depend on such factors as the number of days of operation and the costs of maintenance and personnel. Sales and profits in FY12/17 will probably not quadruple 1Q figures, but FISCO believes that full-year operating income could easily exceed the Company’s current forecast by 15–20%. The Company plans to raise its production capacity incrementally by removing production bottlenecks. If pressured by customers to increase its supply, it may lift its production capacity sooner than now planned, or even add new capacity. Consequently, FISCO believes that the Company could increase the performance targets in its current medium-term plan of operations, which includes FY12/17.

Summary

**Key Points**

- The global demand for semiconductor wafers is growing and is estimated at 5.5mn units per month in terms of 12-inch wafer equivalents
- The Company maintains superior cost competitiveness, customer composition, and production and processing technologies
- Company paid dividends of ¥10 per share for FY12/16

**Results trends**


Source: Prepared by FISCO from the Company's financial results

## Company overview

### RS Technologies originated as an entity to continue the business withdrawn by RASA Industries

#### 1. History

The Company's main business, silicon wafer reclaim service, was originally conducted by RASA Industries, Ltd. <4022> from 1984. Following RASA Industries' decision to withdraw from this business, the current President Nagayoshi Ho acquired all of this business in December 2010 and established the Company.

RASA Industries started a silicon wafer reclaim business in 1984 as part of its business diversification, and in 1985 it newly constructed the Sanbongi Factory in Sanbongi Town (currently, Osaki City), Miyagi Prefecture and made a fully-fledged start to this business. RASA Industries' reclaim business steadily grew alongside the business expansion of Japan's semiconductor manufacturers, and it acquired the leading position in the reclaim field in the industry. However, when the production scale of Japan's semiconductor manufacturers shifted to a reduction stage, its reclaim business also became unprofitable due to the double blow of falling unit prices and lower production volume. So in the end, RASA Industries decided to withdraw from this business.

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Company overview

After the Company acquired this business at the end of 2010, it launched operations at the Sanbongi Factory from January 2011. It inherited the equipment and some of the employees of RASA Industries, so the business made a steady start and the customer base expanded. In February 2014, it established a subsidiary in Taiwan and began the construction of a new factory, which was completed in December 2015 as the Tainan Factory. Also, in 2013 the Company diversified its business and entered into the solar power station business. It was listed on the Tokyo Stock Exchange (TSE) Mothers market in March 2015, and its listing was transferred to the TSE First Section on September 9, 2016.

**Main events in the Company's history**

<b>December 2010</b>	RS Technologies was established, mainly to conduct a silicon wafer reclaim business. It launched its business after purchasing the equipment that RASA Industries used for its wafer reclaim business and also concluded a lease agreement with it for the Sanbongi Factory's industrial buildings. Furthermore, it hired some of the employees who had left RASA Industries.
<b>January 2011</b>	Sanbongi Factory began operations.
<b>November 2011</b>	Sanbongi Factory acquired the ISO 90001: 2008 certification.
<b>March 2013</b>	It acquired a used goods dealers license and started sales of machinery.
<b>October 2013</b>	It launched a solar power station business at the Sanbongi Factory.
<b>February 2014</b>	It established a consolidated subsidiary in Taiwan.
<b>March 2015</b>	It was listed on the TSE Mothers market.
<b>December 2015</b>	It completed the construction of the Taiwanese subsidiary's Tainan Factory.
<b>September 2016</b>	Its listing was transferred to the TSE First Section.

Source: Prepared by FISCO from Company materials

**The Company's three main businesses are wafer business, trading in used semiconductor production equipment, and other business**

**2. Overview of business segments**

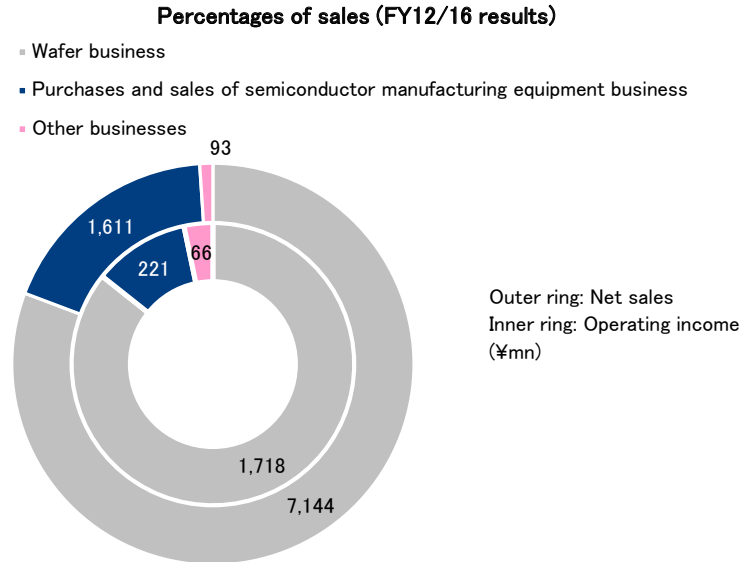
Since FY12/16, the Company has had three business segments; the main "wafer business," "the purchases and sales of semiconductor manufacturing equipment business," and "other businesses." Up to FY12/15, purchases and sales of semiconductor manufacturing equipment was included in other businesses, but it was made a stand-alone segment following its business expansion.

As the name indicates, the purchases and sales of semiconductor manufacturing equipment business involves the purchase of used semiconductor manufacturing equipment from semiconductor manufacturers around the world and then their sale to Chinese companies toward the full-fledged launch of this industry in China in the future. The distribution of used manufacturing equipment is common for liquid crystal panel manufacturing equipment, and a similar development is expected to emerge in the future for semiconductor manufacturing equipment. But at the current point in time, the Chinese semiconductor industry is still in its infancy and as yet the distribution of used equipment has not become fully established.

Currently, the content of the purchases and sales of semiconductor manufacturing equipment business is the purchase and sale of consumables that are used when semiconductors are manufactured. At FISCO, we estimate that the reason why the Company decided to launch this trading company-type business is that it is meaningful in terms of building relations toward business expansion in the future and also for gathering information, including for the handling of used equipment. It is also because human relations are considered to be extremely important when conducting business with local companies in China.

Company overview

Other businesses include the earnings from technical consulting and from the solar power station business in the Sanbongi Factory.



Source: Prepared by FISCO from the Company's financial results

## Greatly reduces the cost of wafers used for testing and monitoring in the semiconductor manufacturing process

### 3. Wafer business

#### (1) Semiconductor manufacturing process

In order to understand the Company's silicon wafer reclaim business and also to fully understand its strengths and value, at FISCO we think it is essential to understand silicon wafers themselves and also the semiconductor manufacturing process. So we provide brief explanations of both below.

##### a) Silicon wafers

"A semiconductor" is a substance that has intermediary properties between a conductor, which conducts electricity, and an insulator, through which electricity cannot pass. Integrated circuits (IC) are manufactured to use these properties to fabricate highly dense electric circuits. An IC includes the CPU, which is 'the brain' of the PC, and memory to store information (such as flash memory and DRAM). If speaking of semiconductors today, it commonly means a "product that applies the properties of a semiconductor," or in other words IC, and it is also sometimes referred to by terms like semiconductor chips or IC chips.

There are various substances with semiconductor properties, but presently silicon is widely used for the mass production of IC. For this usage, an ingot of a single crystal silicon is pulled out of melted polycrystalline silicon and then sliced thinly into wafers, and these wafers are called "silicon wafers." Semiconductor manufacturers use various types of semiconductor manufacturing equipment to fabricate detailed circuits on silicon wafers and thereby manufacture semiconductor chips.

Company overview

The following are the points that should be kept in mind about silicon wafers.

**1) Silicon wafers come in various sizes, but the trend is for larger sizes.**

This is because the manufacturing costs per semiconductor chip can be lowered by fabricating the circuits of many semiconductor chips on a single silicon wafer. Currently, on a mass-production basis wafers with a 12 inch (300mm) diameter are both the largest and the mainstay size. There are also smaller sizes, such as 8 inches, 6 inches, and 5 inches, while an 18 inch (450mm) wafer is set to appear in the future.

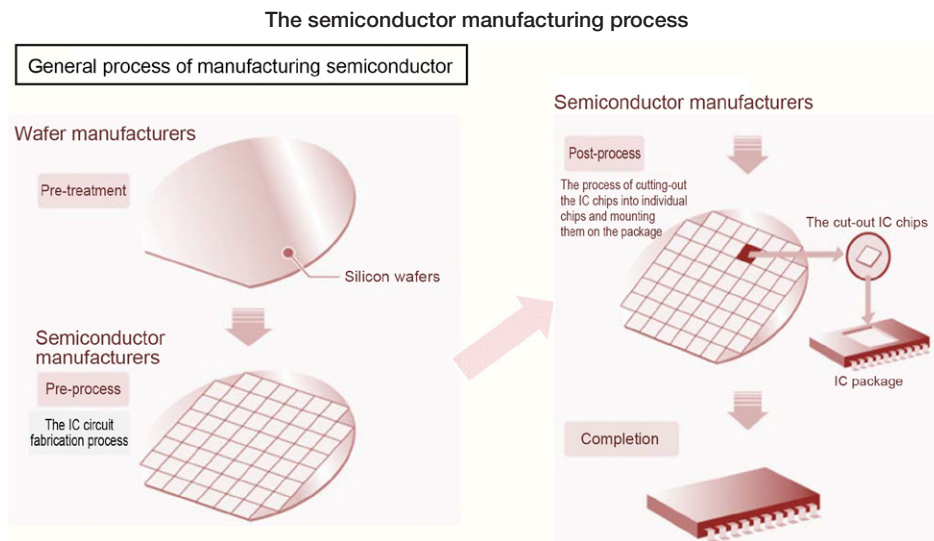
**2) The surfaces of silicon wafers must be very smooth.**

This is because the surface treatment of semiconductor chips is extremely detailed work. Realizing this smoothness is one way for a company to technologically differentiate itself, but it becomes more and more difficult as the size of the wafer grows larger.

**b) The semiconductor manufacturing process**

The semiconductor manufacturing process is divided broadly into “the pre-process” and “the post-process.” The pre-process is the process of fabricating the semiconductor circuit on the silicon wafer and it utilizes the latest state-of-the-art technologies, such as vacuum technologies like lithography technology, and polymer chemistry technologies. An important point here is “miniaturization.” By making the lines of the circuit as fine as possible, the circuits of hundreds of semiconductor chips can be fabricated on a single silicon wafer.

The post-process involves separating the individual chips on the silicon wafers for which the pre-process has been completed, mounting them on a mounting part known as the semiconductor package, and forming them into completed semiconductor products. What we usually see as are these packaged IC chips.



Source: Prepared by FISCO from the Company's results briefing materials

Company overview

(2) The silicon wafer reclaim business

a) Background of the emergence of the wafer reclamation business

The Company's wafer business is wafer reclamation

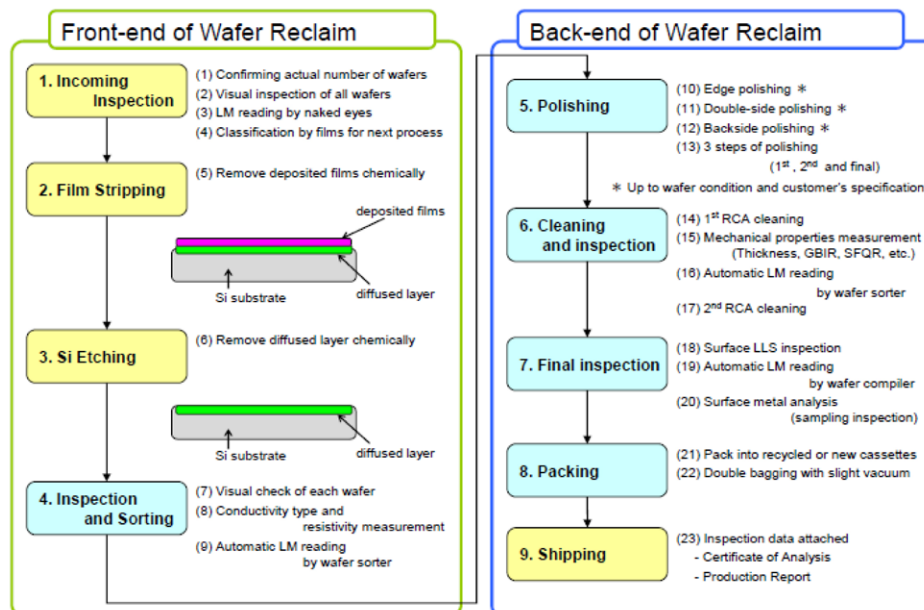
Not all of the silicon wafers introduced into the semiconductor manufacturing process are used to manufacture semiconductor chips. As previously explained, the semiconductor manufacturing process is a series of extremely detailed processes, so it is necessary to progress through these manufacturing processes while conducting tests and evaluations at each of its stages. The silicon wafers used for these purposes are usually called "test wafers," "dummy wafers," or "monitor wafers" (in this report, they are collectively referred to as "monitor wafers").

Currently, approximately 20% of all wafers are used as monitor wafers. In other words, if 100 wafers are to be introduced into the semiconductor manufacturing line, in actuality only 80 wafers will be processed into semiconductors (wafers used for this purpose are called "prime wafers" and are distinguished from monitor wafers), and the remaining 20 wafers will be used for testing and evaluation purposes.

Although introducing new wafers for testing and evaluation purposes is a fundamental part of the process, there has arisen the need among semiconductor manufacturers to reuse (reclaim) the used monitor wafers in order to reduce the costs of manufacturing semiconductors, even if just by a little. In response to this need, the Company provides a silicon wafer reclaim service, in which it polishes the surfaces of used monitor wafers so they can be used again.

In terms of its specific business model, the Company provides the reclaim services on the used monitor wafers sent to it by the various semiconductor manufacturers, and then sends them back to these manufacturers, for which it collects a reclaim fee. As used monitor wafers contain the trade secrets and expertise of these semiconductor manufacturers, the Company manages each carefully and separately and sends them securely back to the semiconductor manufacturer that requested its service.

Outline of the silicon wafer reclaim process



Source: Prepared by FISCO from the Company's results briefing materials



## Company overview

**b) Earnings model of the semiconductor wafer reclamation business**

To simply explain the earnings model for the wafer reclaim business, first, net sales are obtained by multiplying the number of reclaim-treatment wafers by the average treatment fee. Conversely, the cost of sales, which is a variable cost for factory operations, is a fixed cost. Labor costs and depreciation are major elements within it, and from this amount, the SG&A expenses are deducted to leave the operating income.

One standard for the reclaim fee that the Company collects as the service provider is 20% of the new prime wafers. The price per silicon wafer calculated from the Current Production Statistics of METI (all sizes, averaged basis) is approximately ¥9,000. From this current situation, it is easier to get an image if you consider the price is ¥2,000 per wafer (\$20 for dollar-denominated exports).

There are mainly two factors that cause the reclaim fee to fluctuate. The first is movements in the price of prime wafers and the second is the supply and demand relationship for prime wafers at a particular time. Reclaim service demand is mainly affected by the semiconductor manufacturers' capacity utilization rates. Semiconductor manufacturers' utilization rates are further affected by demand for the final products that consume large amounts of semiconductors (such as PCs or smartphones). If speaking only of reclaim service, there is also the supply and demand factor. This occurs when a semiconductor becomes newly operational, a new line is introduced, or the process rules (the fine-processing level) are changed. When these events occur, semiconductor manufacturers will introduce a large quantity of monitor wafers into the process in order to stabilize the manufacturing line prior to mass production. While on the supply side, as previously stated, the level of the reclaim fee makes it difficult for new entrants to generate profits, and it is difficult for even existing manufacturers to take the decision to invest in increasing their production capacity. So in this sense, the market situation can be said to be stable.

## Industry environment and Company strengths

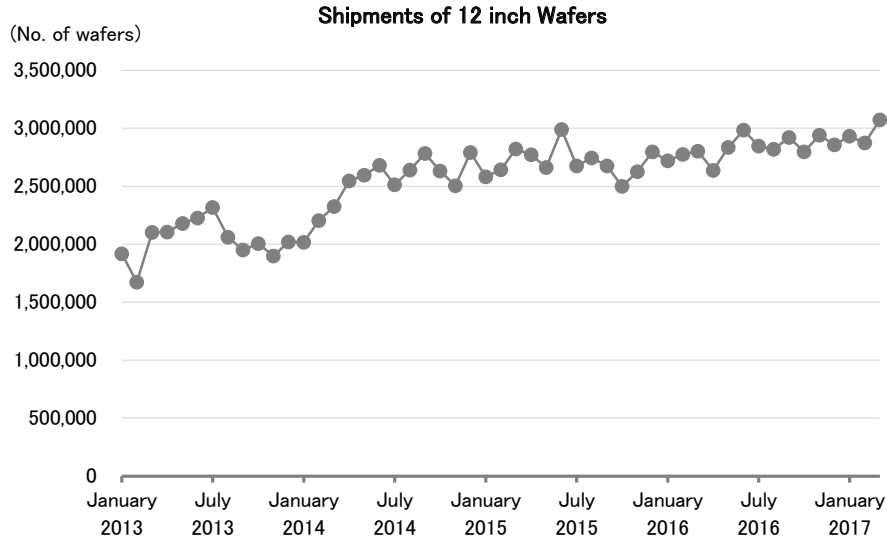
### The global demand for semiconductor wafers is growing and is estimated at 5.5mn units per month in terms of 12-inch wafer equivalents

#### 1. Business environment update

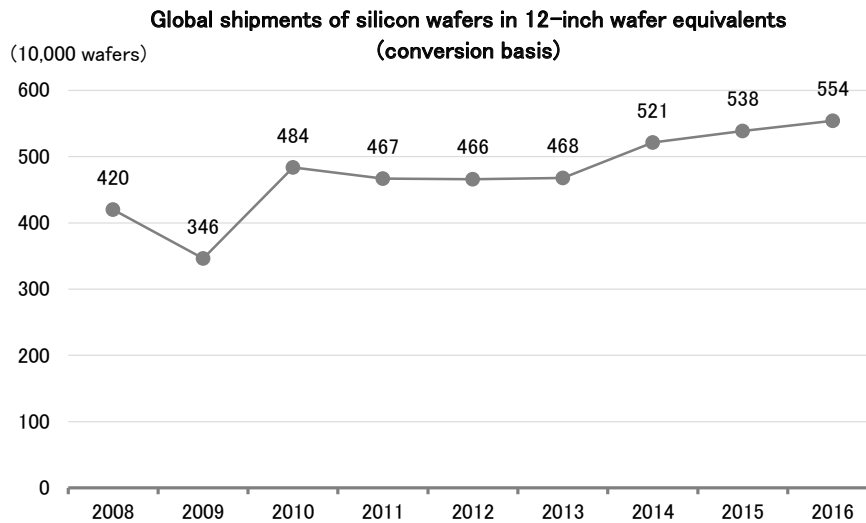
The silicon wafer reclaim business is a niche field within the semiconductor industry, which covers a broad range of fields. But as previously mentioned, it has an impact that cannot be ignored from the perspective of reducing semiconductor chip manufacturing costs, and at FISCO, we think this business field will survive in the future. On the other hand, as it is a difficult field for newcomers to enter into due to the decline in the reclaim fee, the competition conditions can be said to be stable for the existing service providers, including the Company.

According to the Current Production Statistics of METI, in Japan, 347,177,000 inch<sup>2</sup> of 12 inch silicon wafers were sold in March 2017. Converted to 12 inch wafers, this equals 3,071,276 wafers. According to SEMI, the total volume of the silicon wafers shipped globally in 2016 was 10,738 million square inches. If we assume that 70% of this area was 12 inch wafers, the same as in Japan, then the number of 12 inch wafers shipped in 2016 can be calculated to be approximately 66.50 million wafers, or monthly shipments of around 5.54 million wafers. Twenty percent of this amount (approximately 1.1 million wafers a month) became monitor wafers, and this presents the overall image of the silicon wafer reclaim market.

Industry environment and Company strengths



Source: Prepared by FISCO from METI's Current Production Statistics



Source: Prepared by FISCO based on statistics from SEMI and on FISCO estimates

The Sanbongi Factory can reclaim 200,000 12-inch wafers per month, while the Tainan Factory can reclaim 100,000 per month. Originally, the Sanbongi Factory could reclaim 160,000 12-inch wafers per month, but by removing bottlenecks in recent years, the design reclamation capacity of this plant was raised to 200,000 wafers per month. By overlapping some processes, the Sanbongi Factory is now reclaiming and shipping 210,000–220,000 12-inch wafers each month. The Sanbongi Factory can also reclaim 120,000 wafers of 8 inches or less in diameter per month. The Tainan Factory reclaims only 12-inch wafers and is currently operating at full capacity. In fact, it appears to be reclaiming and shipping more than 100,000 wafers per month, probably by overlapping some processes as the Sanbongi Factory has done.

Industry environment and Company strengths

Production capacities

Factory	Size	Monthly production capacity
		Actual capacity (end of 2016)
Sanbongi Factory	12 inches	200,000 wafers
	8 inches or less	120,000 wafers
Tainan Factory	12 inches	100,000 wafers

Source: Prepared by FISCO from Company materials

The Company estimates the global market for reclaimed 12-inch semiconductor wafers to be 1 million units per month, and it reclaims somewhat more than 300,000 12-inch wafers per month, so it has a global market share of about 30% based on output. This is the largest share of the market. Japanese competitors of RS Technologies include Mimasu Semiconductor Industry Co., Ltd. (8155) and Hamada Heavy Industries Ltd. Mimasu Semiconductor is part of the Shin-Etsu Chemical Co. Ltd. (4063) group of companies, and it polishes new wafers, as well as used ones. Hamada Heavy Industries is based in Kumamoto Prefecture and specializes in wafer reclamation, like RS Technologies.

Overseas, Taiwanese companies are its main competitors. Japanese companies have a 70% to 80% share of the global silicon wafers market, and they are also the leaders in the reclaim market. But alongside the accumulation of foundry companies (semiconductor manufacturing contractors), reclaim service providers have also been established in Taiwan. Currently, there are three main companies and each is considered to have around a 10% share of the market. Within these competitive conditions, as described below the Company is aiming to utilize its unique strengths, as well as business partnerships and M&A, to acquire a global share of 40% in the medium term.

## The Company maintains superior cost competitiveness, customer composition, and production and processing technologies

### 2. Company strengths

The Company has various strengths, but among them, at FISCO we think the following three are particularly important.

#### (1) Cost competitive

We think that cost competitiveness is the Company's greatest strength. In 1Q FY12/17, the Company achieved an operating income margin of 37.6%. Its plants in Japan and Taiwan are operating at full capacity, so this operating income margin indicates the Company's current capabilities.

The reason it is able to realize this high level of profitability is that it purchased RASA Industries' production equipment at an inexpensive price, and also it keeps employee numbers down to the minimum necessary. RASA Industries made some of its employees unemployed when it withdrew from this business, and the Company launched the business by re-employing some of these employees. It started with 55 employees, the business today has expanded to a production capacity of 200,000 wafers a month, but even now it operates with only 350 employees. When considering that RASA Industries had a production capacity of 90,000 wafers a month with 450 employees, we can clearly see that the Company is operating with a high level of efficiency.

Industry environment and Company strengths

We compared the operating income of the Company to other silicon wafer-related companies, of Shin-Etsu Chemical, SUMCO CORPORATION <3436>, and Mimasu Semiconductor Industry Co., Ltd. Shin-Etsu Chemical and SUMCO are so-called silicon wafer integrated manufacturers, conducting all of the process from the extraction of silicon single crystals. Mimasu Semiconductor Industry and the Company only carry out surface polishing, although Mimasu Semiconductor Industry both manufactures new products and conducts reclaim on used products, unlike the Company that only conducts reclaim. The Company's operating income margin is far higher than the margins of the other three companies.

**Comparison of the operating margins of silicon wafer-related companies**

Company name	Code	Fiscal year-end	Business segment	Operating margin (%)	Net sales (¥mn)	Operating income (¥mn)
RS Technologies	3455	End of December	Wafer business	37.6%	2,102	790
Mimasu Semiconductor	8155	May	Semiconductor Division	16.4%	18,139	2,976
Shin-Etsu Chemical	4063	March	Semiconductor Silicon Business	22.2%	252,614	55,991
SUMCO	3436	December	Companywide	13.4%	60,195	8,067

Note: Operating margins are calculated on the unit of millions of yen.

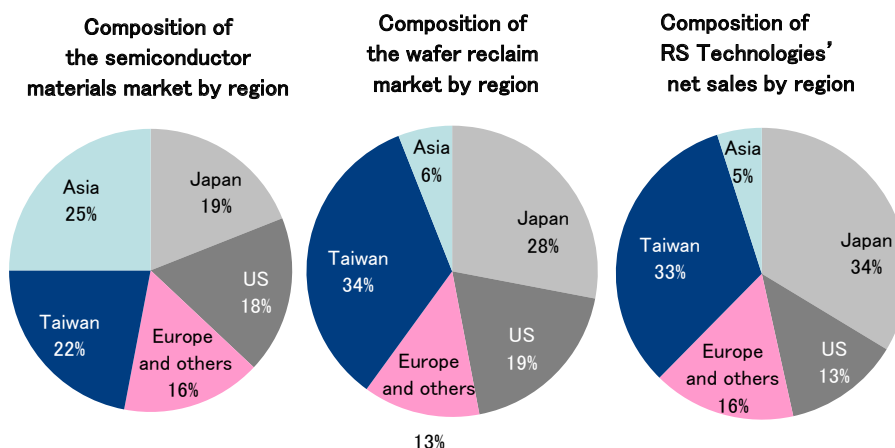
Note: Figures for RS Technologies and SUMCO are for 1Q FY12/17. Figures for Shin-Etsu Chemical are for FY3/17. Sales for Mimasu Semiconductor are sales by the company's semiconductor business in 3Q FY5/17, whereas operating income is for the entire company in 3Q FY5/17.

Source: Prepared by FISCO from each company's financial results, etc.

**(2) Customer composition**

Another strength of the Company is its customer structure, which has changed greatly from the RASA Industries period. During the RASA Industries period, approximately 70% of sales were to specific semiconductor manufacturers, which meant its earnings base was vulnerable, in that the demand for its reclaim services was greatly affected by the production conditions at these semiconductor manufacturers.

The Company has worked to diversify its customers since the time it first launched the business. Currently, the composition of the wafer reclaim market by region is basically the same as the composition of the Company's net sales by region. Even within each respective region, it has multiple semiconductor manufacturers as customers and it has succeeded in greatly reducing the extent it relies on individual companies as customers.



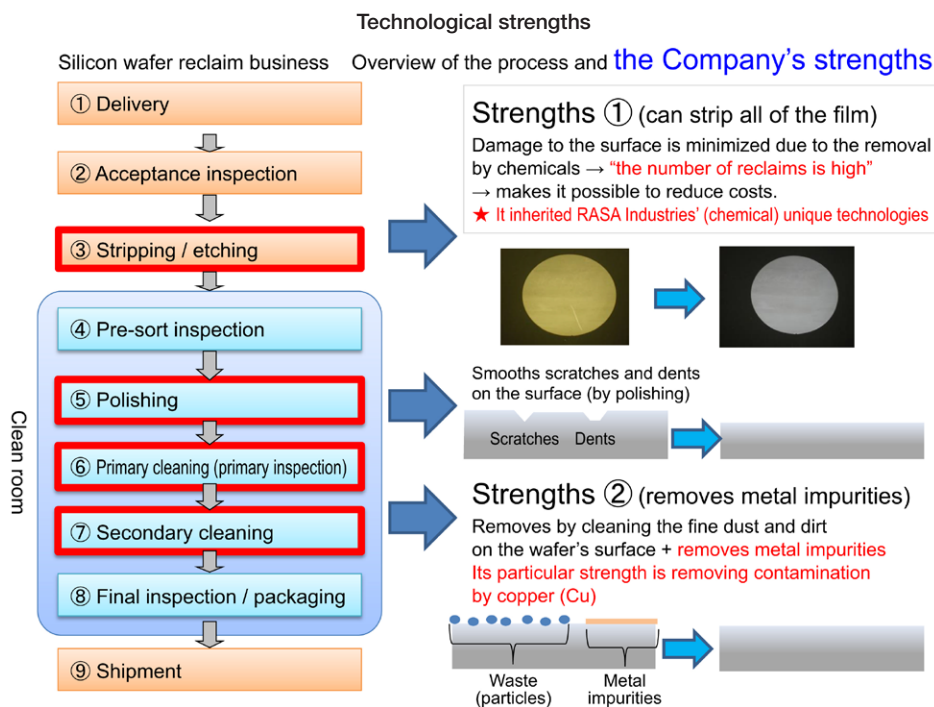
Source: Prepared by FISCO from the Company's results briefing materials

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Industry environment and Company strengths

**(3) Production technologies: thin-film stripping technologies and metal-removal technologies**

The Company also has technological strengths. At the present time, it is demonstrating this strength for technologies to strip the thin film on the surface of the wafer using a chemical treatment. A thin film of various substances is formed on the monitor wafer's surface as the pretreatment for the circuit fabrication, and also a doping treatment is carried out on the inside of the wafer. Fundamentally, the reclaim removes this film and the doping material and returns the wafer back to being highly pure silicon. Whereas rival companies achieve this by polishing, the Company achieves it through a combination of chemical treatment and polishing. The advantage of this approach is that it reduces the amount of polishing per reclaimed wafer, which makes it possible to increase the number of times a wafer can be reclaimed (to prolong its life). At FISCO, we think this is very appealing to customers, as it directly results in cost reductions.



Source: Prepared by FISCO from the Company's results briefing materials

Another strength of the Company is its technology for removing metals from semiconductor wafers. The Company has developed a technology that enables the reclamation of monitor wafers with metallic circuits. Currently, semiconductor makers dispose of monitor wafers with metallic circuits because there has been no previous technology to remove the metals in the circuits. Globally, about 250,000 such monitor wafers are thrown out each month, or about 5% of total global production. Using the Company's new technology, the global market for reclaimed wafers could be increased, and the Company could expand its sales and profits. However, semiconductor makers cling to their belief that metals cannot be removed from wafers, so the Company's technology will probably not be accepted for some time. Anyway, since the Company's plants are operating at full capacity, the Company is giving less priority to the application of its technology for removing metals from semiconductor wafers.

## Business trends

### FY12/16 ended with a bang as the Taiwan subsidiary reached full-capacity operations in 4Q

#### 1. FY12/16 results

In FY12/16, consolidated net sales rose 59.6% YoY to ¥8,849mn, operating income climbed 44.1% to ¥1,557mn, ordinary income advanced by 54.7% to ¥1,450mn, and net income attributable to owners of the parent jumped 185.5% to ¥869mn.

FY12/16 results summary

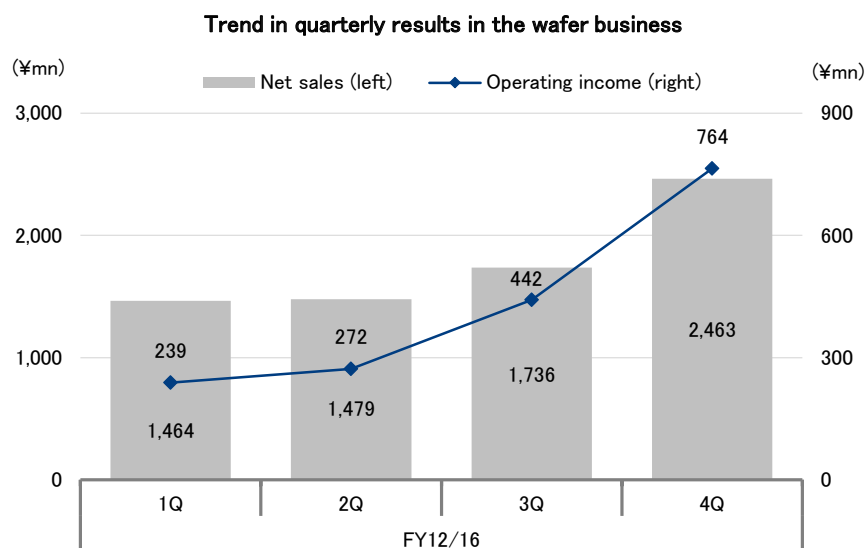
	FY12/15			FY12/16			YoY	
	1H	2H	Full year	1H	2H	Full-year revised forecast		
Net sales	2,475	3,070	5,545	3,877	4,971	7,740	8,849	59.6%
Gross profit	946	925	1,872	933	1,582	-	2,516	34.4%
Gross profit margin	38.3%	30.1%	33.8%	24.1%	31.8%	-	28.4%	-
SG&A expenses	337	452	790	427	531	-	958	21.3%
Ratio of SG&A expenses to net sales	13.7%	14.7%	14.3%	11.0%	10.7%	-	10.8%	-
Operating income	608	472	1,081	506	1,050	1,531	1,557	44.1%
Operating margin	24.6%	15.4%	19.5%	13.1%	21.1%	19.8%	17.6%	-
Ordinary income	582	355	937	156	1,294	1,147	1,450	54.7%
Net income attributable to owners of parent	235	69	304	65	803	742	869	185.8%

Source: Prepared by FISCO from the Company's financial results

In the wafer business, sales grew 39.9% YoY in FY12/16 to ¥7,144mn and operating income increased 24.0% to ¥1,718mn. The number of reclaimed wafers sold increased briskly, reflecting strong demand throughout the year. Shipments of reclaimed wafers from the Sanbongi Factory appear to have exceeded 200,000 units per month during the year. The Tainan Factory did not start business until April 2016 because of a delay in receiving certification by customers, but by June, this plant had turned profitable on a monthly basis, and its production volume expanded rapidly, supported by strong demand.

In 4Q FY12/16, the wafer business generated sales of ¥2,463mn and earned an operating profit of ¥764mn. These figures were 41.9% and 72.6% higher, respectively, than the business's sales and operating profit in 3Q. The Sanbongi Factory continued to operate at full capacity in 4Q, and the Tainan Factory also reached full-capacity operations during 4Q, contributing to the accelerated growth of sales and income. The design production capacity of the Tainan Factory is 100,000 wafers per month, but it seems that production and shipments from this plant surpassed its design capacity in 4Q. The equipment at the Tainan Factory was transferred from Japan, so the depreciation cost of this equipment is very small. This plant should have achieved high production yields quickly because it benefited from the experience of operations in Japan and the know-how obtained from that experience. Therefore, the profit contributed by the Taiwanese subsidiary increased rapidly in 4Q, lifting overall income.

## Business trends



Source: Prepared by FISCO from the Company's financial results

In the business of trading in used semiconductor production equipment, net sales soared 332.2% YoY in FY12/16 to ¥1,611mn and operating profit rose 63.6% to ¥221mn. The sales growth was led by sales of liquid crystal display (LCD) modules, which were begun in FY12/16 and grew rapidly, in addition to conventional sales of conventional consumables. Sales of used LCD modules are usually completed soon after they are bought, which is similar to most transactions by trading companies, but more profitable. Therefore, the business contributed to the large increase in the Company's operating income.

**Breakdown of FY12/16 net sales and operating income by business segment**

		FY12/15		FY12/16		(¥mn)
		Full year	1H	2H	Full year	YoY
Net sales	Wafer business	5,107	2,944	4,200	7,144	39.9%
	Purchases and sales of semiconductor manufacturing equipment business	372	885	725	1,611	332.2%
	Other business	282	47	45	93	-66.8%
	Subtotal	5,762	3,877	4,971	8,849	53.6%
	Adjustments	-216	0	0	0	-
	<b>Total</b>	<b>5,545</b>	<b>3,877</b>	<b>4,971</b>	<b>8,849</b>	<b>59.6%</b>
Operating income	Wafer business	1,386	511	1,206	1,718	24.0%
	Purchases and sales of semiconductor manufacturing equipment business	135	168	53	221	63.6%
	Other business	29	33	33	66	129.3%
	Subtotal	1,550	713	1,293	2,006	29.4%
	Adjustments	-469	-206	-242	-448	-
	<b>Total</b>	<b>1,081</b>	<b>506</b>	<b>1,050</b>	<b>1,557</b>	<b>44.1%</b>

Source: Prepared by FISCO from Company materials

## Business trends

## The wafer business achieved an operating income margin of 37.6%, due to a high capacity utilization rate and an increase in prices for reclaimed wafers

### 2. 1Q FY12/17 results

For 1Q FY12/17, the Company reported consolidated net sales of ¥2,552mn (up 49.0% YoY), operating income of ¥733mn (up 387.5%), ordinary income of ¥919mn (up 33.9 times) (note:), and net income attributable to owners of the parent of ¥605mn, reversing a net loss of ¥37mn in 1Q FY12/16.

#### Overview of the 1Q FY12/17 results

	FY12/16					FY12/17			(¥mn)
	1Q	2Q	3Q	4Q	Full-year results	1Q	YoY	QoQ	
Net sales	1,713	2,164	2,393	2,578	8,849	2,552	49.0%	-1.0%	
Gross profit	354	579	632	950	2,516	999	181.8%	5.2%	
Gross profit margin	20.7%	26.8%	26.4%	36.8%	28.4%	39.1%	-	-	
SG&A expenses	204	223	248	283	958	265	30.3%	-6.1%	
Ratio of SG&A expenses to net sales	11.9%	10.3%	10.4%	11.0%	10.8%	10.4%	-	-	
Operating income	150	356	384	666	1,557	733	387.5%	9.9%	
Operating margin	8.8%	16.5%	16.0%	25.9%	17.6%	28.7%	-	-	
Ordinary income	25	130	335	958	1,450	919	3490.0%	-4.1%	
Net income attributable owners of parent	-37	103	176	627	869	605	-	-3.4%	

Source: Prepared by FISCO from the Company's financial results

In 1Q FY12/16, the Tainan Factory was not yet in operation, and the Sanbongi Factory was removing bottlenecks to increase its production capacity. These conditions explain the large YoY rises in sales and income in 1Q FY12/17. In 4Q FY12/16, both the Sanbongi Factory and the Tainan Factory operated at full capacity. Therefore, consolidated net sales in 1Q FY12/17 declined 1.0%. However, gross profit expanded 5.2% in 1Q FY12/17, and SGA costs fell 6.1%, so operating income grew 9.9%.

Net sales in the wafer business climbed 43.6% YoY but fell 14.7% q-o-q in 1Q FY12/17. The q-o-q decline was due to changes that occurred while the business was manufacturing above the design capacity of its plants, and we do not consider it a problem. Specifically, we believe that the q-o-q drop in sales was due to a timing mismatch between the number of days of operation and the receipt of orders. The supply of reclaimed wafers remained tight, relative to their demand, and the Company was able to raise its prices for some customers.

The wafer business earned an operating income before adjustments of ¥790mn in 1Q FY12/17, which was up 20.2% YoY and 3.5% q-o-q. Most notably, the business achieved an operating income margin of 37.6% in 1Q FY12/17, up from 31.0% in 4Q FY12/16. The Company had previously stated its opinion that its Taiwanese subsidiary (the Tainan Factory) could achieve an operating income margin of 40% producing at full capacity, assuming an average exchange rate of ¥120/US\$. We estimate that this exchange rate averaged ¥112/US\$ in 1Q FY12/17, but ignoring the impact of changes in this rate, we estimate that the Taiwan subsidiary could have achieved an operating income margin close to 40% in 1Q FY12/7.



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Business trends

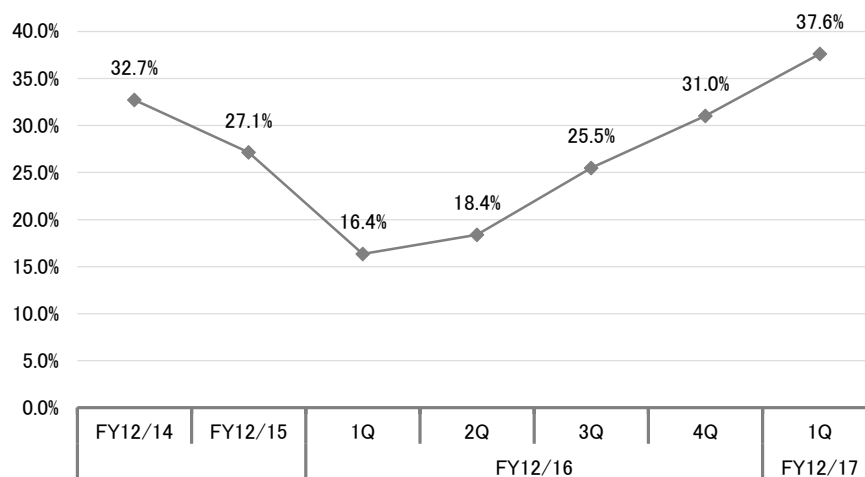
In the business of purchases and sales in used semiconductor production equipment, net sales increased by 87.3% YoY and 343.4% q-o-q in 1Q FY12/17 to ¥430mn. These increases were due mainly to rises in sales of used LCD modules, which the business began trading in FY12/16. The time period between the purchase of an LCD module and its sale is short, but these transactions are quite profitable. Apparently, the Company assumed no sales or profits from trading in LCD modules in its forecasts of results for FY12/17, but it seems to have generated sales of these modules in 1Q. These sales helped to propel the business's operating income before adjustments up by 19.7 times YoY and by 199.4% q-o-q to ¥59mn.

**1Q FY12/17 results by business segment**

							(¥mn)		
		FY12/16					FY12/17		
		1Q	2Q	3Q	4Q	Full year	1Q	YoY	QoQ
Net sales	Wafer business	1,464	1,479	1,736	2,463	7,144	2,102	43.6%	-14.7%
	Purchases and sales of semiconductor manufacturing equipment business	229	656	628	97	1,611	430	87.3%	343.4%
	Other business	19	28	28	17	93	20	5.6%	16.4%
	Subtotal	1,713	2,164	2,393	2,578	8,849	2,552	49.0%	-1.0%
	Adjustments	0	0	0	0	0	0	-	-
<b>Total</b>		<b>1,713</b>	<b>2,164</b>	<b>2,393</b>	<b>2,578</b>	<b>8,849</b>	<b>2,552</b>	<b>49.0%</b>	<b>-1.0%</b>
Operating income	Wafer business	239	272	442	764	1,718	790	230.2%	3.5%
	Purchases and sales of semiconductor manufacturing equipment business	3	164	33	19	221	59	1671.1%	199.4%
	Other business	11	21	21	11	66	12	8.4%	8.1%
	Subtotal	254	458	497	796	2,006	863	238.9%	8.5%
	Adjustments	-104	-102	-113	-129	-448	-130	-	-
<b>Total</b>		<b>150</b>	<b>356</b>	<b>384</b>	<b>666</b>	<b>1,557</b>	<b>733</b>	<b>387.5%</b>	<b>9.9%</b>

Source: Prepared by FISCO from the Company's financial results

**Operating income margin in the wafer business**



Source: Prepared by FISCO from the Company's financial results

## Reflecting tight supply relative to demand, prices of prime wafers and reclaimed wafers rose in 1Q FY12/17

### 3. Environment of the wafer reclamation business and Company response to this environment

#### (1) Price trends

Reflecting the brisk global production of semiconductors in 1Q FY12/17, the supply of prime wafers and reclaimed wafers remained tight, relative to demand. Thus, prices of prime wafers increased during the quarter. Although price hikes varied by manufacturer, we estimate that the average increase was 15%.

This rise in the prices of prime wafers affected the prices of reclaimed wafers, and the Company raised its prices for some customers in 1Q FY12/17. We estimate that these price hikes ranged from 5% to 10% and averaged a few percentage points

There are many uncertainties about the future trend of prices. In general, the trend is toward higher prices, but it is impossible to project the timing and size of price increases. One source of uncertainty about the trend of prices for prime wafers is disagreement among manufacturers of these wafers. Following the price hikes in 1Q FY12/17, the large producers are not inclined to raise prices further, as they prefer to preserve their market shares. However, medium-sized and small manufacturers see the current excess of demand over supply as an opportunity to raise prices further.

It is difficult to determine whether additional hikes in the prices of prime wafers would affect the prices of reclaimed wafers positively or negatively. The use of reclaimed wafers enables semiconductor manufacturers to reduce their costs. If the prices of prime wafers rise, the prices of reclaimed wafers should also be able to increase, as long as an attractive price discount is maintained. However, if the prices of prime wafers rise, semiconductor manufacturers may oppose any increase in the prices of reclaimed wafers in order to control their total costs. If the prices of prime wafers rise while the prices of reclaimed wafers remain stagnant, semiconductor manufacturers are likely to increase the number of reclaimed wafers they use.

The Company did not assume any increases in the prices of its reclaimed wafers in its initial forecasts for FY12/17. Thus, the price increases it achieved in 1Q should contribute to higher sales and profits than the Company has forecasted. The Company continues to assume no further price increases in the final three quarters of FY12/17.

We agree with the Company's hesitant stance toward price increases. Given its strong cost competitiveness, it is earning adequate profits at current prices. We believe that rather than raise prices, the Company would benefit more over the medium-to-long term by keeping lower prices, thereby driving less price competitive competitors out of business and increasing capacity utilization rates and profits. Another reason for this belief is that we think that the Company can still expand its sales and profits by increasing its production and sales volumes, as discussed below.

#### (2) Production and capacity utilization rate

As mentioned above, the Sanbongi Factory and the Tainan Factory are operating at full capacity. However, we believe that the Company could increase its output and shipments by removing more bottlenecks.

#### Business trends

Although the design production capacity of the Sanbongi Factory is 200,000 wafers per month, the plant is now producing and shipping about 220,000 wafers per month as a result of modifying or overlapping some processes. FISCO thinks that monthly output at this plant could be lifted by another 10,000–20,000 wafers per month. The Company admits that many of its reclaimed wafers have excessive specifications for qualities such as smoothness, given the uses of these wafers. If these excessive specifications were corrected and reclaimed wafers were produced to less demanding but fitting specifications, productivity could be increased, for example, by shortening the wafer polishing time, and output could be expanded.

FISCO believes that easing the specifications for reclaimed wafers would be extremely effective because it would allow the Company to reduce the amount of supplies used to process reclaimed wafers without increasing capital investment, thereby increasing profitability. However, the production capacity increase possible without additional capital investment is reaching a limit. Even after easing specifications, the maximum output for the Sanbongi Factory would probably be about 240,000 wafers per month unless the plant installed additional production equipment.

The design production capacity of the Taiwan plant is 100,000 wafers per month, and the plant is operating at full capacity. By accepting more orders for wafers that require little processing, this plant could probably add output of 10,000–20,000 wafers per month, but this limit has apparently already been reached.

Given the current capacity constraint on output, FISCO expects the Company to decide to invest in additional capacity soon. The Company's medium-to-long-term management plan calls for increasing the production capacity at both plants, but the timing and details of these increases remain undecided (this issue is discussed below in the section on medium-to-long-term growth strategy).

## ■ Medium-to-long-term growth strategy

### Even after adjusting exchange rate assumptions, sales and profits should continue to grow

#### 1. Medium-term performance targets and means of achieving them

At the start of every year, the Company announces a new three-year management plan for the year just beginning and the next two years. The 2017 plan targets net sales of ¥9,204mn, operating income of ¥2,432mn, and net profit attributable to owners of the parent of ¥1,571mn for FY12/19. This plan sets higher sales targets for FY12/17 and FY12/18 than the 2016 plan did, but lower profit targets. We understand that the main reason for the lower profit targets is a change in the assumed average exchange rate from ¥120/US\$ in the 2016 plan to ¥107/US\$ in the 2017 plan. If the assumed rate had remained unchanged, the profit targets in the 2017 plan would have risen.

Medium-to-long-term growth strategy

**Targets for 2017 medium-term management plan**

	(¥mn)					
	FY12/16	FY12/17		FY12/18		FY12/19
	Results	2016 plan	2017 plan	2016 plan	2017 plan	2017 plan
Net sales	8,849	8,292	8,556	8,338	8,891	9,204
Operating income	1,557	2,191	1,939	2,186	2,146	2,432
Net income attributable to owners of parent	869	1,578	1,177	1,588	1,346	1,571

Source: Prepared by FISCO from the Company's financial results briefing materials

The 2017 plan is based on the assumption that the Sanbongi Factory produces 200,000 wafers per month and the Tainan Factory produces 100,000 per month in 2017, but in 2018 and 2019, the Tainan Factory is expected to increase its monthly output to more than 100,000 wafers by removing bottlenecks. Also, as mentioned above, the 2017 plan assumes an average exchange rate of ¥107/US\$.

The Sanbongi Factory and the Tainan Factory are currently producing wafers at rates exceeding their design capacities. Given the tight supply of reclaimed wafers, relative to demand, we believe that the Company may accelerate the timing and extent of its planned removal of bottlenecks in response to customer requests. If it does, it could outperform the targets in its 2017 plan.

To reach the performance targets in the 2017 plan, the Company intends to achieve the five goals shown below and put forth in its 2016 plan.

**Five goals of the medium-to-long term management plan**

The medium- to long-term management policy	
①	Increase output by expanding capacity at the Taiwan subsidiary and the Sanbongi Factory
②	Increase share of the global market for reclaimed wafers
③	Capture growing demand
④	Exploit the potential global market for reclaimed wafers
⑤	Enter the Chinese market for semiconductors

Source: Prepared by FISCO from the Company's results briefing materials

## The Tainan Factory has met customer requirements for production technology and product quality. Now the Company must invest in greater capacity in Japan and Taiwan

### 2. growth strategy: expand output and market share

The Company's 2016 plan also called for expanding production volume at the Sanbongi Factory and the Tainan Factory. As pointed out above, the Sanbongi Factory is now producing and shipping 210,000–220,000 wafers per month and the Tainan Factory is producing 110,000–120,000 wafers per month.

Since receiving customer certification of its technology and product quality, the Tainan Factory has expanded its output, as has the Sangongi Factory. Therefore, the Company will have to invest in expanding its capacity to increase its output and its market share.

Over the medium term, the Company targets a global market share of 40% based on output. The Company's current actual production capacity is over 300,000 wafers per month. If it could add capacity of 50,000–100,000 wafers per month to its current capacity, it could achieve a global market share of about 40%, we calculate.

We encourage readers to review our complete legal statement on "Disclaimer" page.

Medium-to-long-term growth strategy

The Company could invest in increased capacity at either of its factories. Plant No. 7 at the Sanbongi Factory has already been constructed, but it is not equipped. After it is fully equipped, it could increase production capacity by about 200,000 wafers per month. However, the equipment and its installation would cost ¥7,000-8,000mn, and a capacity increase of 200,000 wafers per month would over-expand the Company's capacity width, leading toward a lowering of the utilization rate. Therefore, we believe that a capacity increase of about 100,000 wafers per month, costing ¥3,000-4,000mn, would be more realistic.

The Tainan Factory has open space around it where a new plant could be constructed. However, this factory can still increase its capacity and output significantly by eliminating bottlenecks. The production line equipment in this factory was transferred from the Sanbongi Factory, and there is still a notable disparity in the throughput (the processing capability per unit of time) of the manufacturing processes. The production capacity of the total line is limited by the process with the lowest throughput. By investing in the removal of such bottlenecks, the overall production capacity could be raised, and this investment would be smaller than that needed to build a new production line.

We estimate that the Company could add production capacity of 50,000 wafers per month at its Tainan Factory by removing bottlenecks. The Sanbongi Factory is now producing about 220,000 wafers per month and the Tainan Factory is producing 120,000. We believe that the Sanbongi Factory could increase its capacity and output by eliminating unnecessarily stringent product specifications. Thus, if the Tainan Factory were to add 50,000 units per month of capacity by removing bottlenecks, the Company's capacity to reclaim 12-inch wafers would exceed 400,000 units per month.

The Company has not yet decided the timing or scale of its capacity increases hereafter, including by eliminating bottlenecks. Competitors in the wafer reclamation business have not begun to expand their production capacity significantly, and it seems that the Company may be content to maintain the current tight supply of reclaimed wafers, relative to demand, and thereby benefit from price hikes for these wafers. The Company has not considered the impact of price hikes in its current forecasts because hikes to date have not been large.

The Company is open to business alliances as well as mergers and acquisitions (M&A) as means of expanding its production capacity. In July 2016, the Company established a business agreement with Nippon Valqua Industries, Ltd. (7995). According to this agreement, the Company is seeking business synergy with Valqua FFT Inc., a subsidiary of Nippon Valqua Industries that is also engaged in the reclamation of silicon wafers.

We believe that M&A would be a very effective means for the Company to expand its business. As mentioned earlier, not all companies engaged in the reclamation of silicon wafers are profitable, given the decline in prices or fees for reclamation. The current technology roadmap calls for the replacement of 12-inch wafers, the dominant size, by 18-inch wafers in the future. When that happens, companies that reclaim wafers will have to invest heavily in facilities. Because of the Company's top market share and high price competitiveness, it is in an advantageous position to forge business alliances or to purchase or merge with another company. As the Company will have to invest heavily when the semiconductor industry adopts 18-inch wafers, it should restrict its investment in expanding capacity to reclaim 12-inch wafers. Thus, increasing capacity through M&A and business alliances is as important a management policy as increasing capacity through independent capital investment.

Medium-to-long-term growth strategy

## **Advances in semiconductor products and a switch to 18-inch wafers will generate new demand for reclaimed wafers. The Company is prepared to exploit this demand.**

### **3. Growth strategy: capture growing demand**

Additional production capacity and advanced technologies are needed to capture growing demand. We have addressed the issue of additional capacity above. Now, we shall examine technological developments.

We expect demand to grow as a result of technological advances in semiconductor products and the transition to the next larger wafer size.

The full-scale market penetration of 3D NAND flash memory devices is a current example of a technological advance that is increasing the demand for reclaimed wafers. NAND flash memory devices are the main type of flash memory in use, but the memory capacity of these devices is limited by their current means of production. To overcome this limitation, circuits were stacked vertically to produce 3D NAND flash memory devices. In early 2016, Toshiba Corp. (6502), Intel Corp., and some other makers of memory devices began the full-scale mass production of 3D NAND flash memory devices. As 3D NAND flash memory devices are difficult to manufacture, their production requires many monitor wafers. As mentioned previously, the demand for monitor wafers rises not only with an upturn in the semiconductor cycle, but also when a new plant is put into operation or a new semiconductor is produced. The increasing production of 3D NAND flash memory devices has generated new demand for reclaimed wafers, which the Company is capturing. If the Company successfully commercializes its unique technology for the removal of metals from semiconductor wafers, it could generate new demand for reclaimed wafers and monopolize that demand.

Regarding the generational change in the size of wafers, the road map shows there will be a shift from the current size of 12 inches to 18 inches. Reclaim service providers are in a passive position for this shift to 18 inches, and the important point will be whether or not they can respond quickly when the demand for them occurs. On this point, the Company has already introduced equipment and established the polishing technologies for 18 inch wafers into its Sanbongi Factory. These preparations have been highly evaluated by customers and it has in place a system enabling it to transition to mass production at any time. At FISCO, we think that among the specialist providers of reclaim services, only a few companies have completed the preparations to respond to the shift to 18 inches, and in this respect the Company has a major advantage.

Medium-to-long-term growth strategy

## Potential market for the Company's metal extraction technology is large, but time will be needed to develop the market

### 4. Growth strategy: Opening-up the potential reclaim market

This refers to the expansion of the reclaim market by the previously described metal-removal technology. If the Company receives certification for its proprietary metal-removal technology, the monitor wafers that are currently thrown away can be expected to be sent for reclaim service. The scale of this potential demand is thought to be in the region of 250,000 wafers a month and can be expected to have a major impact on the Company's earnings.

As previously mentioned, there is a strong preconception among semiconductor manufacturers that is impossible to remove the metals, and as yet the Company's technology has not been launched on a commercial basis. However, for example the appearance of new products like 3D NAND flash and the further progress in miniaturization will result in a decline in yields for semiconductor chips and an increase in costs. In such a case, demand for reclaim wafers will grow even stronger and it is possible that in this process, the need for the Company's metal-removing technology will increase.

## Company sees commercial opportunity in transferring used equipment from Japan and conducting wafer business in China

### 5. Growth strategy: Entering into the Chinese semiconductor market

China plans to invest ¥5 trillion into its semiconductor industry by 2020. The Company plans to participate in the Chinese semiconductor market to accelerate its growth over the medium-to-long term and to enlarge the scope of its business. Many of the Company's managers, including President Ho, gained abundant experience in transactions with Chinese companies and cultivated close personal relationships with Chinese business people while working at trading companies. These managers have been applying their experience and contacts in China to increase the Company's business in that country.

The Company is now supplying various equipment, that meet the needs of Chinese semiconductor manufacturers. In FY12/16, its sales of LCD modules (components of LCD panels) in China grew quickly. Over the medium-to-long term, the Company aims to trade in semiconductor production equipment in China, in line with the name of this business. It has already bought used equipment for the production of LCD panels and sold this equipment in China. Semiconductor production equipment must process components much more finely than equipment for the production of LCDs, but the Company may be able to increase its sales of both kinds of equipment in China.

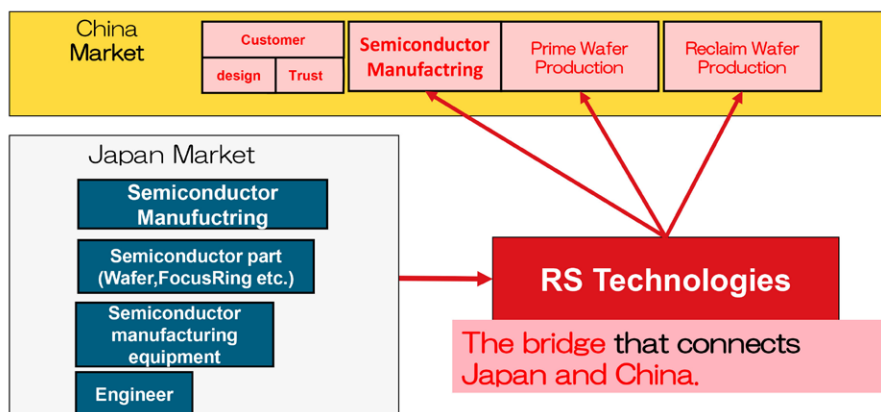
We believe that the Company has a great opportunity to expand its wafer business in China. As China's semiconductor industry grows, its need for reclaimed wafers should also increase. Most likely, the suppliers of reclaimed wafers will be asked to construct plants close to their customers. The Company is considering expanding its business domain accompanying the rise of the Chinese semiconductor market. This is unlikely in the near term, but the development of the Company's business in China is of great interest.

Diagram of Company's participation in China's semiconductor market

### Entry China semiconductor market

China is planning an investment at **5trillion JPY** in the semiconductor industry by 2020.

More relations with Chinese semiconductor enterprises and join a Chinese market.



Source: Prepared by FISCO from the Company's results briefing materials

## Forecasts

**Based on its results in 1Q FY12/17, the Company's forecasts for FY12/17 appear conservative**

**The performance targets in its medium-term management plan may also be upgraded**

For FY12/17, the Company forecasts net sales of ¥8,556mn (down 3.3% YoY), operating income of ¥1,939mn (up 24.5%), ordinary income of ¥1,825mn (up 25.8%), and net income attributable to owners of the parent of ¥1,177mn (up 35.3%). These forecasts are included in the performance targets of its medium-term management plan.

#### Company forecasts for FY12/17

	FY12/16			FY12/17			
	1H	2H	Full year	1Q	2Q (E)	1H (E)	Full year (E)
Net sales	3,877	4,971	8,849	2,552	1,679	4,232	8,556
Gross profit	933	1,582	2,516	999	-	-	-
Gross profit margin	24.1%	31.8%	28.4%	39.1%	-	-	-
SG&A expenses	427	531	958	265	-	-	-
Ratio of SG&A expenses to net sales	11.0%	10.7%	10.8%	10.4%	-	-	-
Operating income	506	1,050	1,557	733	243	977	1,939
Operating margin	13.1%	21.1%	17.6%	28.7%	14.5%	23.1%	22.7%
Ordinary income	156	1,294	1,450	919	-11	908	1,825
Net income attributable to owners of parent	65	803	869	605	-19	586	1,177

Source: Prepared by FISCO from the Company's financial results



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Forecasts

As noted earlier, the Company earned large profits in 1Q FY12/17, so it does not need to earn many profits in 2Q in order to meet the Company's profit forecasts for 1H FY12/17. Most likely, profits in 1H will surpass the Company's initial forecasts.

We also believe that the Company could earn larger profits in FY12/17 than it has forecasted because its full-year forecasts appear conservative based on its business environment to date and the environment we project for the rest of the year. In its wafer business, the supply of reclaimed wafers remains smaller than their demand, and there are no signs of worsening imbalance in supply and demand. A competitor had to close its plant temporarily due to damage inflicted by the Kumamoto Earthquake. As a result, the Company saw an increase in demand for its reclaimed wafers, but it considered this increase temporary. However, even after the competitor resumed operations at its repaired plant, the demand for the Company's wafers did not diminish. Therefore, the Company is becoming more confident that the excess of demand over supply in the market for reclaimed wafers is structurally based and is likely to continue for the foreseeable future.

In early May, Japan celebrates several national holidays, many workers take summer vacations, and plants need to be closed temporarily for maintenance operations during the year. For these reasons, the Company's factories will operate fewer days per month in the final three quarters of FY12/17 than they did in 1Q, and operating income in FY12/17 is not likely to be four times the 1Q operating income of ¥733mn. However, we calculate that FY12/17 operating income could reach about ¥2,400mn.

If operating income were to rise to ¥2,400mn in FY12/17, it would roughly equal the Company's target operating income for FY12/19. Furthermore, we project that operating income should grow in FY12/18 and FY12/19. Although the Company has assumed no large capital investment in expanding capacity through FY12/19, it plans to increase production and shipments by removing bottlenecks in its manufacturing processes. Therefore, we believe that the Company could add about ¥400mn to its FY12/17 operating income by FY12/19, or slightly more than targeted in the Company's 2017 medium-term management plan.

The Company has not decided when it will remove bottlenecks in its production processes, or by how much. However, we believe that it is likely to remove them soon in response to customer demand. Furthermore, as the Company's competitors have few or no means to increase their production, the Company could remove all its bottlenecks at one time. If it did so, it could raise its monthly output to about 400,000 wafers per month and take another step toward achieving an operating income of ¥3,000mn per year.

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Forecasts

**Consolidated Statement of Income**

(¥mn)

	FY12/14	FY12/15	FY12/16	FY12/17	
				1H (E)	Full year (E)
Net sales	4,566	5,545	8,849	4,232	8,556
Growth rate	31.4%	21.4%	59.6%	9.1%	-3.3%
Gross profit	1,819	1,872	2,516	-	-
Gross profit margin	39.9%	33.8%	28.4%	-	-
SG&A expenses	653	790	958	-	-
Ratio of SG&A expenses to net sales	14.3%	14.3%	10.8%	-	-
Operating income	1,166	1,081	1,557	977	1,939
Growth rate	66.1%	-7.3%	44.1%	92.8%	24.5%
Operating margin	25.5%	19.5%	17.6%	23.1%	22.7%
Ordinary income	1,247	937	1,450	908	1,825
Growth rate	52.6%	-24.8%	54.7%	481.3%	25.8%
Net income attributable to owners of parent	664	304	869	586	1,177
Growth rate	26.8%	-54.2%	185.8%	792.1%	35.3%
After adjustment for share split					
Earnings per share (¥)	131.90	56.72	159.97	107.76	216.49
Book value per share (¥)	300.54	485.54	642.59	-	-
Dividend per share (¥)	0.00	0.00	10.00	-	Undecided

Source: Prepared by FISCO from the Company's financial results

**Simplified balance sheet**

(¥mn)

	FY12/14	FY12/15	FY12/16	1Q FY12/17
Current assets	2,759	3,892	5,525	5,738
Cash and deposits	1,190	1,842	1,952	2,630
Note and accounts receivable—trade	696	970	2,727	2,088
Merchandise and finished goods	523	615	628	827
Non-current assets	4,064	5,845	5,333	5,231
Tangible non-current assets	3,918	5,667	5,152	5,050
Intangible non-current assets	15	29	23	22
Investments and other assets	130	148	158	158
Total assets	6,823	9,737	10,859	10,969
Current liabilities	2,292	2,295	3,000	2,797
Notes and accounts payable—trade	151	186	283	291
Short-term loans payable	827	1,216	1,527	1,602
Non-current liabilities	2,934	4,798	4,317	4,054
Long-term loans payable and corporate bonds	2,925	4,079	3,620	3,399
Shareholders' equity	1,511	2,634	3,538	4,096
Capital stock	199	616	629	633
Capital surplus	198	616	629	633
Retained earnings	1,114	1,418	2,287	2,838
Treasury shares	-	-17	-8	-7
Accumulated other comprehensive income	23	4	-2	15
Non-controlling interests	60	-	-	0
Total net assets	1,596	2,644	3,541	4,118
Total liabilities and net assets	6,823	9,737	10,859	10,969

Source: Prepared by FISCO from the Company's financial results

## Forecasts

**Cash flow statement**

	(¥mn)		
	FY12/14	FY12/15	FY12/16
Cash flow from operating activities	643	470	964
Cash flow from investing activities	-3,215	-2,127	-776
Cash flow from financing activities	3,066	2,327	-91
Cash and deposits translation difference	80	-18	14
Change in cash and deposits	573	652	111
Cash and deposits balance at start of period	377	951	1,603
Cash and deposits balance at end of period	951	1,603	1,714

Source: Prepared by FISCO from the Company's financial results

## Shareholder return policy

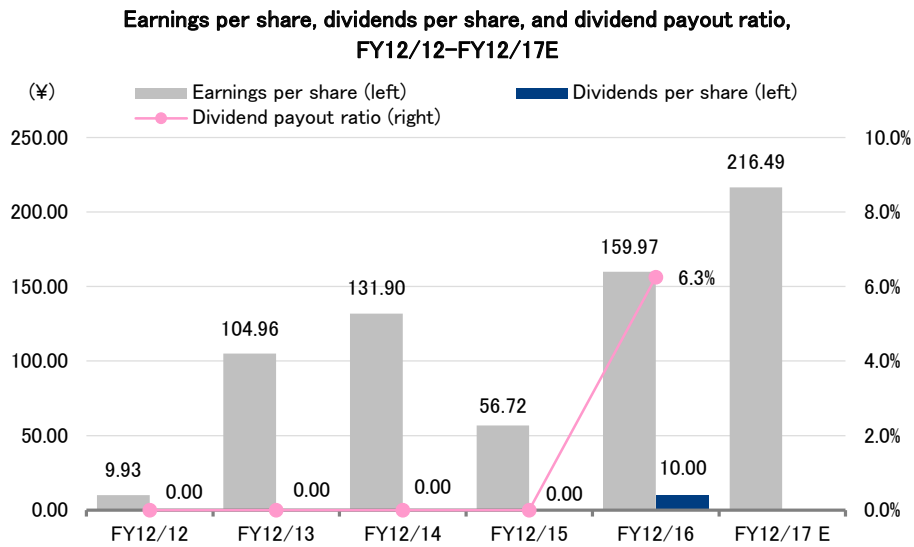
### The Company paid dividends of ¥10 per share for FY12/16

Making fair returns to shareholders is an important concern of Company management, and the Company's basic policy is to pay dividends. Through FY12/15, the Company paid no dividends because it prioritized the accumulation of funds to invest regularly in new plant and equipment.

The Company decides on its dividends after considering a comprehensive range of factors, including current profits, the targets of its medium-term management plan, and its financial strength. For FY12/16, the Company paid regular dividends of ¥10, ¥5 per share and commemorative dividends of ¥5 per share, yielding a dividend payout ratio of 6.3%. We believe that it was motivated to pay dividends because FY12/16 profits were larger than the Company had forecast and the Company's ROE reached the high level of 28.2%, in addition to the other considerations cited above.

The Company has not decided whether to pay dividends for FY12/17. Putting ourselves in the Company's position of operating in a rapidly changing industry, we imagine that the Company wants to postpone a decision on dividends as long as possible while it appraises potential capital investments. As stated earlier, we expect the business environment for reclaimed wafers to remain positive this year, so we believe that the Company is likely to pay dividends for FY12/17.

Shareholder return policy



Source: Prepared by FISCO from the Company's financial results





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