



Ryoden Corporation/ 8084

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How to read a Shared Research report: This report begins with the trends and outlook section, which discusses the company's most recent earnings. First-time readers should start at the business section later in the report.

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Executive summary

Business overview

- Ryoden Corporation is one of the largest electronics trading companies affiliated with Mitsubishi Electric Corporation (TSE Prime: 6503; it is an equity-method affiliate of Mitsubishi Electric, which had a 35.6% stake as of March 31, 2022). The company's main products include semiconductor products such as analog semiconductors, power semiconductors, microcontrollers, and SoCs; factory automation (FA) products such as servomotors; and commercial air conditioners. The company procures products from manufacturers and resells them to companies in the automotive, industrial machinery, and construction industries. In its mainstay semiconductor business, the company is a major distributor for Renesas Electronics Corporation (TSE Prime: 6723). This fact largely explains the high percentage of Ryoden revenue accounted for by automotive applications, and has favorably positioned the company to take advantage of increased demand stemming from the electrification of automobiles. Ryoden's main customers are Panasonic Holdings Corporation (TSE Prime: 6752), accounting for 15.0% of FY03/22 revenue, and Mitsubishi Electric Group, accounting for 14.0%.
- In FY03/22, revenue was JPY229.1bn (+16.4% YoY), operating profit was JPY7.1bn (+106.7% YoY), and OPM was 3.1% (1.7% in FY03/21). The company's segments are Electronics (67.4% of revenue and 65.6% of operating profit in FY03/22), FA Systems (18.8%, 19.0%), Cooling & Heating and Building Systems (10.8%, 14.3%), and X-Tech (3.1%, 1.0%). The company was founded in 1947 as a distributor of Mitsubishi Electric sewing machines, radios, and refrigerators. In its early years, most of its revenue came from sewing machine sales. In the mid-1950s, the company shifted its focus to home electronics (e.g., TVs and refrigerators) produced by Mitsubishi Electric. Ryoden continued to expand into new business areas as the economy changed and developed, such as factory automation (1960), cooling and heating (1961), semiconductors (1965), and building systems (1971).
- As an electronics trading company, Ryoden is responsible for procuring various electronic components (such as microcontrollers, 30 to 100 of which are installed in a single automobile) on behalf of its customers, holding its own inventory, and delivering products in a timely manner within the supply chain. However, holding inventory entails the risk of valuation and disposal losses, and electronic components—unlike FA components—are difficult to resell because they are often custom products. Every year, Ryoden incurs inventory disposal losses (based on procurement cost) of around JPY100mn. This represents less than 1% of the total inventory held by the company.
- Electronics trading companies are faced with the major decisions of how much inventory risk they will accept and whether they will operate their business in tandem with their customers' global business development. As a result of the electronic component shortage caused by the COVID-19 pandemic, many end-product manufacturers are asking electronics trading companies to increase the amount of inventory they hold. The company's average days in inventory thus increased from 36.5 days in FY03/13–FY03/20 to 44.4 days in FY03/21–FY03/22, an increase of just under 10 days. The company is responding to the increase in inventories by increasing the number of orders for which customers have made firm commitments to collect the product. It is the company's policy not to accept orders, especially those with long delivery times unless it has a firm commitment from the customer to collect the product from its warehouses. This allows for inventory growth that does not directly translate into inventory risk.
- As the semiconductor industry has matured over the past decade (FY03/13–FY03/22), major smartphone and semiconductor manufacturers (the company's customers) have tended to grow larger. Arrow Electronics (US; NYSE: ARW), Avnet, Inc. (US; NASDAQ: AVT), and other major players are pursuing expansion through M&A in response to the movements of their customers. Meanwhile, electronics trading companies in Japan are divided into two groups: companies aiming to expand in scale like Macnica Holdings, Inc. (TSE Prime: 3132) and Kaga Electronics Co., Ltd. (TSE Prime: 8154), and those seeking to improve profitability. Ryoden falls into the latter category, as its basic management policy calls for increasing operating profit rather than expanding the scale of its business. The company focuses on profitability in procurement and sales in its existing businesses, while aiming to launch new high-value-added businesses such as those belonging to the X-Tech segment.
- The main products handled in the Electronics segment (67.4% of revenue and 65.6% of operating profit in FY03/22) are analog and power semiconductors, microcontrollers, SoCs, and memory. GPMs vary by product. Major suppliers are Renesas Electronics and Micron Memory Japan K.K., a subsidiary of Micron Technology, Inc. (NASDAQ: MU). Major customers are

Panasonic Holdings, Mitsubishi Electric, and Tier 1 suppliers in the automotive industry. Revenue is linked to automobile production volume and other factors. Competitors that source key products from the same suppliers are Tachibana Eletech Co., Ltd. (TSE Prime: 8159), Kanaden Corporation (TSE Prime: 8081; an equity-method affiliate of Mitsubishi Electric [27.1% shareholding as of March 31, 2022]), and Ryosan Company, Limited (TSE Prime: 8140). However, sales agency agreements define the products and sales regions entrusted to each of these electronics trading companies such that they do not compete for the same customers.

- ▶ The FA Systems segment (18.8% of revenue and 19.0% of operating profit in FY03/22) mainly handles servomotors and other drive equipment, in addition to control equipment such as programmable logic controllers (PLCs). The company's main supplier in this area is the Mitsubishi Electric Group. Major customers are machine tool manufacturers, semiconductor manufacturing equipment manufacturers, and control panel manufacturers. Demand is linked to orders for machine tools and semiconductor manufacturing equipment. Tachibana Eletech and Kanaden are two competitors that source key products from the same supplier.
- ▶ The Cooling & Heating and Building Systems segment (10.8% of revenue and 14.3% of operating profit in FY03/22) mainly handles commercial air conditioners, commercial freezers, room air conditioners, and commercial elevators. Major suppliers include Mitsubishi Electric Group and Kubota Air Conditioner Co., Ltd., a subsidiary of Kubota Corporation (TSE Prime: 6326). Major customers include air conditioning subcontractors and construction companies. Revenue is linked to the number of construction starts. Tachibana Eletech and Kanaden are two competitors that source key products from the same suppliers.
- ▶ In the X-Tech ("cross-tech") segment (3.1% of revenue and 1.0% of operating profit in FY03/22), the company combines the technologies it has developed over the years in semiconductors (Electronics), factory automation (FA Systems), and HVAC (Cooling & Heating and Building Systems). Major new businesses comprise indoor agriculture, medical information systems, and information and communications technology (ICT). Equity-method affiliate Farmship, Inc. had a 36% share of the domestic indoor agriculture market in 2020 (source: Fuji Keizai Agriculture, Forestry and Fisheries Business 2020). The X-Tech segment mainly provides services in-house, and its GPM hovers around 15%.
- ▶ The company's GPM has been on a gradual uptrend over the past 10 years, increasing from 10.1% (FY03/13) to 11.4% (FY03/22). This is due to a shift in policy from a focus on revenue expansion to a focus on profitability, particularly in the Electronics segment, as well as a gradual increase in the percentage of revenue accounted for by the X-Tech business, which has a relatively high GPM. The SG&A expense ratio ranged from 7.8% to 9.4% over the period, while personnel expenses, the main component of SG&A expenses, remained between 4.4% and 5.7% of revenue. In some cases, the company dismisses personnel (mainly overseas) in response to losing commercial rights (sales contracts) with suppliers (manufacturers). In FY03/22, operating profit increased by JPY15–20mn for every JPY1 depreciation against the US dollar.

Earnings trends

- ▶ For FY03/22, revenue was JPY229.1bn (+16.4% YoY), operating profit was JPY7.1bn (+106.7%), recurring profit was JPY7.3bn (+99.4%), and net income attributable to owners of the parent was JPY5.0bn (+113.6%). Both revenue and profit were up stemming from a recovery in capital investment projects for the domestic manufacturing industry and steady sales of products for semiconductor production equipment and machine tools.
- ▶ In October 2022, the company announced an upward revision to its full-year FY03/23 forecasts. The revised forecasts call for revenue of JPY249.0bn (+8.7% YoY), operating profit of JPY7.9bn (+11.9% YoY), recurring profit of JPY7.8bn (+7.1% YoY), and net income attributable to owners of the parent of JPY5.3bn (+5.9% YoY). The upward revision was in response to steady sales in the on-board and industrial equipment markets (Electronics segment) that were generated thanks to efforts targeting stronger profitability.
- ▶ The company's medium-term management plan calls for revenue of JPY260.0bn (CAGR of 4.3% from FY03/22) and operating profit of JPY10.0bn (CAGR of 12.3% from FY03/22) in FY03/25. The company forecasts an increase in revenue from FY03/19 to FY03/25 of JPY15.0bn and a GPM of 18% for new businesses (16% in FY03/22). The company plans to increase profits through new business creation.

Strengths and weaknesses

Shared Research sees the company's strengths as the following.

- The company is positioned to benefit from a survivor's advantage because its main suppliers, the Mitsubishi Electric Group and Renesas Electronics Group, have reduced their numbers of distributors, and the products handled by the company face little competition from those of other trading companies.
- Semiconductors for the automotive market account for a high percentage of the company's semiconductor products. This means that the company stands to benefit from increased demand for on-board semiconductors as the electrification of automobiles progresses.
- High market share, a quality customer base composed of major subcontractors, and high profitability in cooling/heating and building systems products due to its status as Mitsubishi Electric's top dealer in this area.

Meanwhile, we believe it has the following weaknesses.

- The company's FA Systems segment is less profitable than the factory automation systems businesses of other Mitsubishi Electric electronics trading companies—the two with the highest shares in this area have higher OPMS. Ryoden's FA Systems segment also accounts for a lower percentage of its revenue compared to these competitors.
- Compared to independent electronics trading companies, Ryoden operates primarily in Japan, where growth in demand is unlikely to continue.
- The company's dependence on a handful of semiconductor manufacturers for its commercial rights and the limited number of customers to whom it sells its products make it difficult to provide solutions to existing and new customers on a product-by-product basis.

Key financial data

Income statement (JPYmm)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	FY03/23
	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Est.
Revenue	203,730	224,766	237,877	221,990	219,225	236,494	240,312	230,087	196,841	229,126	249,000
YoY	0.5%	10.3%	5.8%	-6.7%	-1.2%	7.9%	1.6%	-4.3%	-14.4%	16.4%	8.7%
Gross profit	20,587	22,840	24,065	23,121	22,060	24,432	25,139	25,428	21,843	26,147	
YoY	5.8%	10.9%	5.4%	-3.9%	-4.6%	10.8%	2.9%	1.1%	-14.1%	19.7%	
Gross profit margin	10.1%	10.2%	10.1%	10.4%	10.1%	10.3%	10.5%	11.1%	11.1%	11.4%	
Operating profit	4,414	5,278	4,992	3,673	2,730	5,078	5,624	5,559	3,415	7,062	7,900
YoY	10.3%	19.6%	-5.4%	-26.4%	-25.7%	86.0%	10.8%	-1.2%	-38.6%	106.8%	11.9%
Operating profit margin	2.2%	2.3%	2.1%	1.7%	1.2%	2.1%	2.3%	2.4%	1.7%	3.1%	3.2%
Recurring profit	4,662	5,641	4,505	3,296	2,442	5,055	5,648	5,758	3,653	7,285	7,800
YoY	17.0%	21.0%	-20.1%	-26.8%	-25.9%	107.0%	11.7%	1.9%	-36.6%	99.4%	7.1%
Recurring profit margin	2.3%	2.5%	1.9%	1.5%	1.1%	2.1%	2.4%	2.5%	1.9%	3.2%	3.1%
Net income	2,852	3,550	2,891	1,846	1,388	3,588	3,731	3,860	2,343	5,004	5,300
YoY	28.7%	24.5%	-18.6%	-36.1%	-24.8%	158.5%	4.0%	3.5%	-39.3%	113.6%	5.9%
Net margin	1.4%	1.6%	1.2%	0.8%	0.6%	1.5%	1.6%	1.7%	1.2%	2.2%	2.1%
Per-share data (JPY)											
Shares issued (year-end; '000)	22,825	22,825	22,825	22,825	22,825	22,825	22,825	22,825	22,825	22,825	
EPS	131.5	163.7	133.4	85.2	64.0	165.4	172.0	177.8	107.8	230.0	243.1
Diluted EPS	131.5	163.7	133.3	85.1	63.9	165.0	171.3	172.0	107.2	228.7	
Dividend per share	40	44	48	26	22	37	56	56	56	58	66
Book value per share	2,494	2,657	2,834	2,785	2,809	2,949	3,023	3,104	3,208	3,427	
Balance sheet (JPYmm)											
Cash and cash equivalents	22,881	14,258	15,872	17,518	19,168	14,375	17,161	20,174	21,129	11,639	
Notes and accounts receivable, contract assets and electronically recorded monetary claims	52,488	58,654	64,452	61,095	65,418	73,816	73,701	69,654	67,873	73,466	
Merchandise and finished goods	15,662	18,010	21,670	20,510	18,670	25,336	23,784	20,857	19,285	32,850	
Total current assets	94,744	102,557	108,840	103,975	107,030	118,237	117,753	113,565	111,332	126,093	
Tangible fixed assets	4,128	4,628	4,880	5,088	4,883	4,702	4,580	4,122	3,881	3,764	
Investments and other assets	8,589	10,171	10,824	9,648	10,190	10,089	9,722	9,993	9,591	10,306	
Intangible assets	409	578	575	669	658	680	673	623	724	806	
Total assets	107,872	117,936	125,121	119,382	122,763	133,710	132,729	128,304	125,529	140,970	
Accounts payable and electronically recorded obligations	44,248	48,820	52,847	46,985	52,018	57,863	54,873	49,396	46,331	54,893	
Total current liabilities	50,543	55,721	59,209	53,146	56,039	63,615	61,216	54,745	50,954	62,585	
Total fixed liabilities	3,207	4,632	4,466	5,834	5,748	6,036	5,797	6,001	4,655	3,618	
Total liabilities	53,751	60,353	63,676	58,981	61,787	69,652	67,013	60,746	55,609	66,204	
Retained earnings	37,275	39,943	41,585	42,348	42,705	45,340	47,900	50,544	51,671	55,458	
Total net assets	54,121	57,582	61,444	60,401	60,975	64,057	65,716	67,557	69,919	74,766	
Cash flow statement (JPYmm)											
Cash flows from operating activities	11,124	778	-4,168	3,747	4,601	-4,833	4,479	5,938	1,939	-7,623	
Cash flows from investing activities	-269	-1,920	-1,230	-777	474	674	-686	-518	183	-1,326	
Cash flows from financing activities	-245	-994	-1,087	-1,550	-2,227	-942	-563	-2,281	-1,052	-883	
Financial ratios											
ROA (RP-based)	4.3%	5.0%	3.7%	2.7%	2.0%	3.9%	4.2%	4.4%	2.9%	5.5%	
ROE	5.4%	6.4%	4.9%	3.0%	2.3%	5.7%	5.8%	5.8%	3.4%	6.9%	
Equity ratio	50.2%	48.8%	49.1%	50.5%	49.6%	47.8%	49.4%	52.5%	55.6%	52.9%	
Number of employees	1,148	1,190	1,251	1,276	1,284	1,284	1,251	1,279	1,289	1,214	
Revenue per employee	177	189	190	174	171	184	192	180	153	189	
Operating profit per employee	3.8	4.4	4.0	2.9	2.1	4.0	4.5	4.3	2.6	5.8	

Source: Shared Research based on company data

Notes: Figures may differ from company materials due to differences in rounding methods.

Net income is net income attributable to owners of the parent.

In October 2017, the company implemented a 1-for-2 reverse stock split. Historical year-end shares outstanding, EPS, DPS, and BPS have been retroactively adjusted accordingly.

Recent updates

Highlights

On February 3, 2023, Shared Research initiated coverage of Ryoden Corporation.

On January 30, 2023, the company announced its financial results for Q3 FY03/23.

For previous releases and developments, please refer to the News and topics section.

Trends and outlook

Quarterly trends and results

Earnings (cumulative) (JPYmn)	FY03/21				FY03/22				FY03/23			FY03/23	
	Q1	Q1-Q2	Q1-Q3	Q1-Q4	Q1	Q1-Q2	Q1-Q3	Q1-Q4	Q1	Q1-Q2	Q1-Q3	% of Est.	Est.
Revenue	46,525	92,715	141,037	196,841	52,841	107,310	166,006	229,126	60,079	127,033	194,716	78.2%	249,000
YoY	-18.0%	-19.5%	-17.0%	-14.4%	13.6%	15.7%	17.7%	16.4%	13.7%	18.4%	17.3%		8.7%
Gross profit	5,237	10,460	15,605	21,843	5,785	12,017	18,548	26,147	6,751	14,481	21,903		
YoY	-12.5%	-17.9%	-16.0%	-14.1%	10.5%	14.9%	18.9%	19.7%	16.7%	20.5%	18.1%		
Gross profit margin	11.3%	11.3%	11.1%	11.1%	10.9%	11.2%	11.2%	11.4%	11.2%	11.4%	11.2%		
SG&A expenses	4,664	9,232	13,749	18,427	4,642	9,246	13,942	19,084	4,867	9,716	14,911		
YoY	-6.7%	-7.3%	-7.7%	-7.3%	-0.5%	0.2%	1.4%	3.6%	4.8%	5.1%	7.0%		
SG&A ratio	10.0%	10.0%	9.7%	9.4%	8.8%	8.6%	8.4%	8.3%	8.1%	7.6%	7.7%		
Operating profit	573	1,228	1,855	3,415	1,143	2,771	4,605	7,062	1,883	4,765	6,991	88.5%	7,900
YoY	-41.8%	-55.9%	-49.4%	-38.6%	99.5%	125.7%	148.2%	106.8%	64.7%	72.0%	51.8%		11.9%
Operating profit margin	1.2%	1.3%	1.3%	1.7%	2.2%	2.6%	2.8%	3.1%	3.1%	3.8%	3.6%		3.2%
Recurring profit	669	1,348	2,045	3,653	1,299	2,834	4,754	7,285	2,012	4,714	6,826	87.5%	7,800
YoY	-39.5%	-52.6%	-46.0%	-36.6%	94.2%	110.2%	132.5%	99.4%	54.9%	66.3%	43.6%		7.1%
Recurring profit margin	1.4%	1.5%	1.4%	1.9%	2.5%	2.6%	2.9%	3.2%	3.3%	3.7%	3.5%		3.1%
Net income	432	1,072	1,544	2,343	836	1,890	3,225	5,004	1,323	3,170	4,718	89.0%	5,300
YoY	-39.4%	-44.7%	-41.1%	-39.3%	93.5%	76.3%	108.9%	113.6%	58.3%	67.7%	46.3%		5.9%
Net margin	0.9%	1.2%	1.1%	1.2%	1.6%	1.8%	1.9%	2.2%	2.2%	2.5%	2.4%		2.1%

Earnings (quarterly) (JPYmn)	FY03/21				FY03/22				FY03/23			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Revenue	46,525	46,190	48,322	55,804	52,841	54,469	58,696	63,120	60,079	66,954	67,683	
YoY	-18.0%	-21.0%	-11.7%	-7.2%	13.6%	17.9%	21.5%	13.1%	13.7%	22.9%	15.3%	
Gross profit	5,237	5,223	5,145	6,238	5,785	6,232	6,531	7,599	6,751	7,730	7,422	
YoY	-12.5%	-22.7%	-11.7%	-9.1%	10.5%	19.3%	26.9%	21.8%	16.7%	24.0%	13.6%	
Gross profit margin	11.3%	11.3%	10.6%	11.2%	10.9%	11.4%	11.1%	12.0%	11.2%	11.5%	11.0%	
SG&A expenses	4,664	4,568	4,517	4,678	4,642	4,604	4,696	5,142	4,867	4,849	5,195	
YoY	-6.7%	-7.8%	-8.7%	-5.8%	-0.5%	0.8%	4.0%	9.9%	4.8%	5.3%	10.6%	
SG&A ratio	10.0%	9.9%	9.3%	8.4%	8.8%	8.5%	8.0%	8.1%	8.1%	7.2%	7.7%	
Operating profit	573	655	627	1,560	1,143	1,628	1,834	2,457	1,883	2,882	2,226	
YoY	-41.8%	-63.6%	-28.8%	-17.7%	99.5%	148.5%	192.5%	57.5%	64.7%	77.0%	21.4%	
Operating profit margin	1.2%	1.4%	1.3%	2.8%	2.2%	3.0%	3.1%	3.9%	3.1%	4.3%	3.3%	
Recurring profit	669	679	697	1,608	1,299	1,535	1,920	2,531	2,012	2,702	2,112	
YoY	-39.5%	-61.0%	-25.9%	-18.5%	94.2%	126.1%	175.5%	57.4%	54.9%	76.0%	10.0%	
Recurring profit margin	1.4%	1.5%	1.4%	2.9%	2.5%	2.8%	3.3%	4.0%	3.3%	4.0%	3.1%	
Net income	432	640	472	799	836	1,054	1,335	1,779	1,323	1,847	1,548	
YoY	-39.4%	-47.8%	-30.9%	-35.5%	93.5%	64.7%	182.8%	122.7%	58.3%	75.2%	16.0%	
Net margin	0.9%	1.4%	1.0%	1.4%	1.6%	1.9%	2.3%	2.8%	2.2%	2.8%	2.3%	

Source: Shared Research based on company data

Notes: Figures may differ from company materials due to differences in rounding methods.

Net income is net income attributable to owners of the parent.

Quarterly results by segment

Quarterly results by segment (JPYmn)	FY03/21				FY03/22				FY03/23		
	Q1	Q1-Q2	Q1-Q3	Q1-Q4	Q1	Q1-Q2	Q1-Q3	Q1-Q4	Q1	Q1-Q2	Q1-Q3
Revenue	46,525	92,715	141,037	196,841	52,841	107,310	166,006	229,126	60,079	127,033	194,716
YoY	-18.0%	-19.5%	-17.0%	-14.4%	13.6%	15.7%	17.7%	16.4%	13.7%	18.4%	17.3%
Electronics	28,976	58,129	90,475	126,243	35,741	71,895	112,616	154,390	42,607	89,527	137,818
YoY	-19.4%	-19.9%	-16.0%	-13.6%	23.3%	23.7%	24.5%	22.3%	19.2%	24.5%	22.4%
FA Systems	7,910	16,296	24,799	35,713	9,789	20,516	31,590	42,985	10,481	22,376	33,611
YoY	-22.1%	-22.5%	-21.1%	-13.9%	23.8%	25.9%	27.4%	20.4%	7.1%	9.1%	6.4%
Cooling & Heating and Buildings Systems	6,651	13,591	19,896	27,278	6,308	12,769	18,271	24,750	5,708	12,370	19,260
YoY	-23.2%	-21.4%	-14.8%	-13.4%	-5.2%	-6.0%	-8.2%	-9.3%	-9.5%	-3.1%	5.4%
X-Tech	2,986	4,696	5,865	7,605	1,002	2,128	3,527	6,999	1,281	2,759	4,025
YoY	52.7%	7.3%	-20.8%	-30.8%	-66.4%	-54.7%	-39.9%	-8.0%	27.8%	29.7%	14.1%
Operating profit	573	1,228	1,855	3,415	1,143	2,771	4,605	7,062	1,883	4,765	6,991
YoY	-41.8%	-55.9%	-49.4%	-38.6%	99.5%	125.7%	148.2%	106.8%	64.7%	72.0%	51.8%
Electronics	75	309	868	1,616	1,228	1,820	3,334	4,859	1,844	4,024	5,965
YoY	-83.0%	-71.8%	-42.6%	-26.3%	1537.3%	489.0%	284.1%	200.7%	50.2%	121.1%	78.9%
FA Systems	43	134	202	572	249	660	1,073	1,410	170	691	1,024
YoY	-80.6%	-77.4%	-79.3%	-56.4%	479.1%	392.5%	431.2%	146.5%	-31.7%	4.7%	-4.6%
Cooling & Heating and Buildings Systems	180	535	693	1,197	130	608	650	1,059	41	362	508
YoY	-35.7%	-41.0%	-29.0%	-24.2%	-27.8%	13.6%	-6.2%	-11.5%	-68.5%	-40.5%	-21.8%
X-Tech	334	371	286	292	-90	-146	-192	74	-70	-97	-193
YoY	357.5%	46.1%	-8.0%	-53.4%	-	-	-	-74.7%	-	-	-

Quarterly results by segment (JPYmn)	FY03/21				FY03/22				FY03/23		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Revenue	46,525	46,190	48,322	55,804	52,841	54,469	58,696	63,120	60,079	66,954	67,683
YoY	-18.0%	-21.0%	-11.7%	-7.2%	13.6%	17.9%	21.5%	13.1%	13.7%	22.9%	15.3%
Electronics	28,976	29,153	32,346	35,768	35,741	36,154	40,721	41,774	42,607	46,920	48,291
YoY	-19.4%	-20.3%	-8.1%	-6.8%	23.3%	24.0%	25.9%	16.8%	19.2%	29.8%	18.6%
FA Systems	7,910	8,386	8,503	10,914	9,789	10,727	11,074	11,395	10,481	11,895	11,235
YoY	-22.1%	-22.9%	-18.3%	8.9%	23.8%	27.9%	30.2%	4.4%	7.1%	10.9%	1.5%
Cooling & Heating and Buildings Systems	6,651	6,940	6,305	7,382	6,308	6,461	5,502	6,479	5,708	6,662	6,890
YoY	-23.2%	-19.6%	4.0%	-9.4%	-5.2%	-6.9%	-12.7%	-12.2%	-9.5%	3.1%	25.2%
X-Tech	2,986	1,710	1,169	1,740	1,002	1,126	1,399	3,472	1,281	1,478	1,266
YoY	52.7%	-29.4%	-61.4%	-51.5%	-66.4%	-34.2%	19.7%	99.5%	27.8%	31.3%	-9.5%
Operating profit	573	655	627	1,560	1,143	1,628	1,834	2,457	1,883	2,882	2,226
YoY	-41.8%	-63.6%	-28.8%	-17.7%	99.5%	148.5%	192.5%	57.5%	64.7%	77.0%	21.4%
Electronics	75	234	559	748	1,228	592	1,514	1,525	1,844	2,180	1,941
YoY	-83.0%	-64.3%	35.0%	9.5%	1537.3%	153.0%	170.8%	103.9%	50.2%	268.2%	28.2%
FA Systems	43	91	68	370	249	411	413	337	170	521	333
YoY	-80.6%	-75.5%	-82.3%	10.8%	479.1%	351.6%	507.4%	-8.9%	-31.7%	26.8%	-19.4%
Cooling & Heating and Buildings Systems	180	355	158	504	130	478	42	409	41	321	146
YoY	-35.7%	-43.4%	129.0%	-16.6%	-27.8%	34.6%	-73.4%	-18.8%	-68.5%	-32.8%	247.6%
X-Tech	334	37	-85	6	-90	-56	-46	266	-70	-27	-96
YoY	357.5%	-79.6%	-	-98.1%	-	-	-	4333.3%	-	-	-

Source: Shared Research based on company data
Notes: Figures may differ from company materials due to differences in rounding methods.
Total operating profit includes companywide expenses.

Q3 FY03/23 results

Summary

- ▷ Revenue: JPY194.7bn (+17.3% YoY; 78.2% progress versus full-year forecast)
- ▷ Operating profit: JPY7.0bn (+51.8% YoY; 88.5%)
- ▷ Recurring profit: JPY6.8bn (+43.6% YoY; 87.5%)
- ▷ Net income attributable to owners of the parent: JPY4.7bn (+46.3% YoY; 89.0%)

Cumulative results for Q3 FY03/23 are as follows: revenue of JPY194.7bn (+17.3% YoY; 78.2% progress versus full-year forecast), operating profit of JPY7.0bn (+51.8% YoY; 88.5% progress), recurring profit of JPY6.8bn (+43.6% YoY; 87.5% progress), net income attributable to owners of the parent of JPY4.7bn (+46.3% YoY; 89.0% progress). Progress versus full-year company forecasts were 78.2% for revenue, 88.5% for operating profit, 87.5% for recurring profit, and 89.0% for profit attributable to owners of the parent. The Electronics segment performed well, driving the increase in both revenue and profit.

Automobile production was still affected by the shortage of semiconductors and lockdowns in China, and manufacturers lowered their full-year sales volume forecasts. In electronic components and semiconductors, demand for smartphones, PCs, and other

digital products lost steam, but demand for components for automobiles and industrial equipment remained high relative to the supply. In industrial and machine tools, investments in labor saving technology and decarbonization supported demand.

Results by segment

Electronics: Revenue of JPY137.9bn (+22.4% YoY), operating profit of JPY6.0bn (+78.9% YoY)

In Japan, there were concerns about production adjustments by some customers due to ongoing supply chain disruptions such as semiconductor and material shortages. That said, sales of system-on-chips (SoCs) and memory for infotainment systems in the automotive market were strong, as were sales of analog semiconductors and passive components for semiconductor manufacturing equipment and machine tools in the industrial equipment market.

FA Systems: Revenue of JPY33.6bn (+6.4% YoY), operating profit of JPY1.0bn (-4.6% YoY)

Amid a gradual recovery from supply chain disruptions such as semiconductor and material shortages, demand for semiconductor production equipment and controllers for equipment manufacturers, especially machine tool manufacturers, remained strong, as did capital investment projects in the manufacturing industry, particularly in the automotive and electrical and electronic components fields.

Cooling & Heating and Building Systems: Revenue of JPY19.3bn (+5.4% YoY), operating profit of JPY508mn (-21.8% YoY)

Heating and cooling performed well, thanks to a recovery in sales of commercial air conditioners and refrigeration equipment on the back of hot weather and strong capital investment demand from the service industry, in addition to robust orders for commercial building air-conditioning systems. In building systems, the company worked to strengthen sales of building management systems and to win new orders for elevators and building equipment products, but sales remained sluggish, affected by soaring material prices and longer delivery times in the construction market.

X-Tech: Revenue of JPY4.0bn (+14.1% YoY), operating loss of JPY193mn (versus operating loss of JPY192mn in Q3 FY03/22)

In healthcare, sales of the Total Pack IT service, which provides in-hospital IT systems in a single package, performed well, as did sales of products related to large-scale examination equipment and imaging systems. In ICT, IT-related equipment sales were strong, as were sales of the FlaRevo video management system, an original solution developed by the company, and RFID-related products. In smart agriculture, the company continued to work toward full-scale mass production of spinach at Block FARM, a next-generation indoor farm completed in May 2022, which is the world's first closed artificially lit indoor farm for spinach production.

For details on previous quarterly and annual results, please refer to the Historical financial statements section.

Full-year company forecasts

(JPYmn)	FY03/21			FY03/22			FY03/23		
	1H Act.	2H Act.	FY Act.	1H Act.	2H Act.	FY Act.	1H Act.	2H Est.	FY Est.
Revenue	92,715	104,126	196,841	107,310	121,816	229,126	127,033	121,967	249,000
YoY	-19.5%	-9.3%	-14.4%	15.7%	17.0%	16.4%	18.4%	0.1%	8.7%
Operating profit	1,228	2,187	3,415	2,771	4,291	7,062	4,765	3,135	7,900
YoY	-55.9%	-21.2%	-38.6%	125.7%	96.2%	106.8%	72.0%	-26.9%	11.9%
Operating profit margin	1.3%	2.1%	1.7%	2.6%	3.5%	3.1%	3.8%	2.6%	3.2%
Recurring profit	1,348	2,305	3,653	2,834	4,451	7,285	4,714	3,086	7,800
YoY	-52.6%	-20.9%	-36.6%	110.2%	93.1%	99.4%	66.3%	-30.7%	7.1%
Recurring profit margin	1.5%	2.2%	1.9%	2.6%	3.7%	3.2%	3.7%	2.5%	3.1%
Net income	1,072	1,271	2,343	1,890	3,114	5,004	3,170	2,130	5,300
YoY	-44.7%	-33.9%	-39.3%	76.3%	145.0%	113.6%	67.7%	-31.6%	5.9%
Net margin	1.2%	1.2%	1.2%	1.8%	2.6%	2.2%	2.5%	1.7%	2.1%

Source: Shared Research based on company data

Note: Figures may differ from company data due to differences in rounding methods.

Net income is net income attributable to owners of the parent.

FY03/23 company forecasts by segment

(JPYmm)	FY03/21			FY03/22			FY03/23		
	1H Act.	2H Act.	FY Act.	1H Act.	2H Act.	FY Act.	1H Act.	2H Est.	FY Est.
Revenue	92,715	104,126	196,841	107,310	121,816	229,126	127,033	121,967	249,000
YoY	-19.5%	-9.3%	-14.4%	15.7%	17.0%	16.4%	18.4%	0.1%	8.7%
Electronics	58,129	68,114	126,243	71,895	82,495	154,390	89,527	79,813	169,340
YoY	-19.9%	-7.5%	-13.6%	23.7%	21.1%	22.3%	24.5%	-3.3%	9.7%
FA Systems	16,296	19,417	35,713	20,516	22,469	42,985	22,376	23,624	46,000
YoY	-22.5%	-5.0%	-13.9%	25.9%	15.7%	20.4%	9.1%	5.1%	7.0%
Cooling & Heating and Buildings Systems	13,591	13,687	27,278	12,769	11,981	24,750	12,370	14,390	26,760
YoY	-21.4%	-3.7%	-13.4%	-6.0%	-12.5%	-9.3%	-3.1%	20.1%	8.1%
X-Tech	4,696	2,909	7,605	2,128	4,871	6,999	2,759	4,201	6,960
YoY	7.3%	-56.0%	-30.8%	-54.7%	67.4%	-8.0%	29.7%	-13.8%	-0.6%
営業利益計	1,228	2,187	3,415	2,771	4,291	7,062	4,765	3,135	7,900
YoY	-55.9%	-21.2%	-38.6%	125.7%	96.2%	106.8%	72.0%	-26.9%	11.9%
Operating profit margin	1.3%	2.1%	1.7%	2.6%	3.5%	3.1%	3.8%	2.6%	3.2%
Electronics	309	1,307	1,616	1,820	3,039	4,859	4,024	1,866	5,890
YoY	-71.8%	19.1%	-26.3%	489.0%	132.5%	200.7%	121.1%	-38.6%	21.2%
Operating profit margin	0.5%	1.9%	1.3%	2.5%	3.7%	3.1%	4.5%	2.3%	3.5%
FA Systems	134	438	572	660	750	1,410	691	869	1,560
YoY	-77.4%	-39.0%	-56.4%	392.5%	71.2%	146.5%	4.7%	15.9%	10.6%
Operating profit margin	0.8%	2.3%	1.6%	3.2%	3.3%	3.3%	3.1%	3.7%	3.4%
Cooling & Heating and Buildings Systems	535	662	1,197	608	451	1,059	362	588	950
YoY	-41.0%	-1.6%	-24.2%	13.6%	-31.9%	-11.5%	-40.5%	30.4%	-10.3%
Operating profit margin	3.9%	4.8%	4.4%	4.8%	3.8%	4.3%	2.9%	4.1%	3.6%
X-Tech	371	-79	292	-146	220	74	-97	-3	-100
YoY	46.1%	-	-53.4%	-	-	-74.7%	-	-	-
Operating profit margin	7.9%	-	3.8%	-	4.5%	1.1%	-	-	-

Source: Shared Research based on company data

Note: Figures may differ from company data due to differences in rounding methods.

Total operating profit includes companywide expenses.

Full-year and 2H revenue forecasts for each segment include intersegment revenue.

In October 2022, Ryoden announced an upward revision to its full-year FY03/23 forecasts on the back of strong 1H FY03/23 results. The revised forecasts call for revenue of JPY249.0bn (+8.7% YoY), operating profit of JPY7.9bn (+11.9% YoY), recurring profit of JPY7.8bn (+7.1% YoY), and net income attributable to owners of the parent of JPY5.3bn (+5.9% YoY). The company expects to enter an adjustment phase in Q4, especially in the Electronics segment, stemming from automobile production cuts and other factors affecting its main customers. It also anticipates an increase in inventories of semiconductor components and other products held by customers.

Compared to the previous forecast, the revised forecast calls for JPY9.0bn higher revenue, JPY800mn higher operating profit, JPY500mn higher recurring profit, and JPY200mn higher net income attributable to owners of the parent.

Reason for the revisions

The company expects to exceed its initial forecasts owing to steady sales in the on-board and industrial equipment markets (Electronics segment) and the positive results of its efforts to strengthen profitability.

By segment

▷ Electronics: Revenue of JPY169.3bn (+9.6% YoY), operating profit of JPY5.9bn (+21.2% YoY)

After a solid performance from FY03/22 through 1H FY03/23, the company expects a slowdown from the beginning of the calendar year due to production and inventory adjustments at its customers.

▷ FA Systems: Revenue of JPY46.0bn (+7.0% YoY), operating profit of JPY1.6bn (+10.6% YoY)

The company expects both revenue and profits to increase YoY due to investment in labor-saving measures, strengthening of core businesses, business domain expansion, and creation of new businesses. It expects orders to build up and market conditions to recover in 2H.

▷ Cooling & Heating and Building Systems: Revenue of JPY26.8bn (+8.1% YoY), operating profit of JPY950mn (-10.3% YoY)

The company expects to improve performance by maximizing earnings from existing businesses, expanding sales in firm markets such as ventilation and heat control, and making zero energy building (ZEB) proposals. The company expects orders to build up and market conditions to recover in 2H.

▷ X-Tech (Cross-Tech): Revenue of JPY7.0bn (-0.6% YoY), operating loss of JPY100mn (versus operating profit of JPY74mn in 1H FY03/22)

The company expects its healthcare, ICT, and smart agriculture businesses all to perform in line with initial forecasts.

Initial company forecasts versus actual results

In FY03/15–FY03/22, net income deviated from the initial forecast by more than 20% on three occasions. The first was in FY03/15 due to the booking of an unforeseen loss. The second and third times were in FY03/16 and FY03/17, both due to weaker-than-expected performance in the core Electronics segment and other businesses. Since then, however, customer demand has recovered and the company’s policy of emphasizing profitability has borne fruit, yielding results continually exceeding forecasts.

Initial company forecasts versus actual results

Results vs. Initial Est. (JPYmn)	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/19 Cons.	FY03/20 Cons.	FY03/21 Cons.	FY03/22 Cons.
Revenue (Initial Est.)	235,000	248,000	225,000	224,800	237,000	233,600	209,000	220,000
Revenue (Results)	237,877	221,990	219,225	236,494	240,312	230,087	196,841	229,126
Results vs. Initial Est.	1.2%	-10.5%	-2.6%	5.2%	1.4%	-1.5%	-5.8%	4.1%
Operating profit (Initial Est.)	5,890	6,500	3,770	3,300	5,200	5,300	3,100	4,300
Operating profit (Results)	4,992	3,673	2,730	5,078	5,624	5,559	3,415	7,062
Results vs. Initial Est.	-15.2%	-43.5%	-27.6%	53.9%	8.2%	4.9%	10.2%	64.2%
Recurring profit (Initial Est.)	5,970	6,500	3,650	3,200	5,400	5,300	3,100	4,400
Recurring profit (Results)	4,505	3,296	2,442	5,055	5,648	5,758	3,653	7,285
Results vs. Initial Est.	-24.5%	-49.3%	-33.1%	58.0%	4.6%	8.6%	17.8%	65.6%
Net income (Initial Est.)	4,000	4,400	2,400	2,100	3,700	3,700	2,200	3,000
Net income (Results)	2,891	1,846	1,388	3,588	3,731	3,860	2,343	5,004
Results vs. Initial Est.	-27.7%	-58.0%	-42.2%	70.9%	0.8%	4.3%	6.5%	66.8%

Source: Shared Research based on company data

Medium-term management plan and business strategy

Medium-term management plan (FY03/23–FY03/25)

By FY03/25, Ryoden aims to be “continuously creating new value as a business-creating company that exceeds the traditional boundaries of dealerships and trading companies.” Its focus areas are healthcare, next-generation mobility, building management/facilities, industrial cooling/heating and environmental management systems (EMS), and manufacturing equipment.

Quantitative targets

- ▷ Revenue in FY03/25: JPY260.0bn (CAGR of 4.3% from FY03/22)
- ▷ Operating profit: JPY10.0bn (CAGR of 12.3%)
- ▷ OPM: 3.8% (3.1% in FY03/22)
- ▷ New business revenue: JPY15.0bn increase versus FY03/19 (versus JPY160mn decrease versus FY03/19 in FY03/22)
- ▷ New business GPM: 18% (16% in FY03/22)
- ▷ ROE: 8.0% (6.9% in FY03/22)

Quantitative targets (consolidated)

(JPYmn)	FY03/22	FY03/25	FY03/25
	Act.	Plan	CAGR
Revenue	229,126	260,000	4.3%
YoY	16.4%	-	-
Operating profit	7,062	10,000	12.3%
YoY	106.8%	-	-
Operating profit margin	3.1%	3.8%	-
New business revenue	JPY160mn decrease versus FY03/18	JPY15.0bn increase versus FY03/18	-
New business GPM	16%	18%	-
ROE	6.9%	8.0%	-

Source: Shared Research based on company data

Ryoden's vision

To be “continuously creating new value as a business-creating company that exceeds the traditional boundaries of dealerships and trading companies.”

The company will change its name to “Ryoden Corporation” (writing Ryoden with Roman lettering rather than Chinese characters) on April 1, 2023. As a “business-creating company,” Ryoden will change its name with the aim of becoming a company that provides new value to all stakeholders and contributes to the sustainable development of global society.

Contributing to society

Ryoden does more than merely seek to maximize earnings. As a truly global enterprise, Ryoden contributes to fulfilling lives for everyone involved in the development of global society.

Business activities that start with the customer

Working with partners on the basis of mutual trust, Ryoden improves customer value by engaging in detailed dialogue with customers to determine their true needs.

Development of global personnel

Respecting the dignity and individuality of each person, Ryoden cultivates a global workforce with a self-starting, self-reliant spirit, capable of tackling every challenge with sensitivity and discernment.

Pioneers in niche businesses

Leveraging its strengths in its areas of expertise (manufacturing technology, on-board systems, imaging, communications, and HVAC), Ryoden has created a niche for itself as a specialist in these fields.

A dynamic and supporting corporate culture

Ryoden cultivates a workplace culture in which people of different workstyles and roles can work together toward shared goals and values, tackling challenges without fear.

Strategic themes

The company's three strategic themes are 1) “establishment of business models for growth businesses and creation of next-generation new businesses,” 2) “improving productivity in core businesses,” and 3) “strengthening the platform for business advancement.”

Establishment of business models for growth businesses and creation of next-generation new businesses

The company will promote the establishment of business models for new businesses in smart agriculture (indoor farms), networks, and healthcare. It also plans to develop new services targeting social issues such as carbon neutrality and food safety.

Improving productivity in core businesses

In the core businesses of factory automation systems, cooling and heating systems, building systems, and electronics, the company will pursue standardization and optimization of operations by promoting structural reforms. It also plans to promote high-value-added businesses by developing new commercial products and implementing solutions businesses.

Strengthening the platform for business advancement

To accelerate the execution of the group's growth strategy, the company will promote the strengthening of its platform for business advancement, including the development of global human resources (which form the basis of corporate management), the implementation of organizational and corporate culture reforms, the creation of digital infrastructure, and the enhancement of IT infrastructure.

(Reference) Review of the previous medium-term management plan (FY03/17–FY03/19)

In the previous medium-term management plan (FY03/17–FY03/19), the company set the numerical targets for the final year, FY03/19, at JPY270.0bn for revenue, JPY10.0bn for operating profit, an OPM of 4.0%, and ROE of 10.0%. Actual results in FY03/19 were JPY240.3bn in revenue (progress of 89.0% versus target), operating profit of JPY5.6bn (56.2%), an OPM of 2.3%, and ROE of 5.8%.

Business

One of the largest electronics trading companies affiliated with the Mitsubishi Electric Group

Ryoden Corporation is one of the largest electronics trading companies affiliated with the Mitsubishi Electric Group. It is an equity-method affiliate of Mitsubishi Electric Corporation, which held a 35.6% stake in the company as of March 31, 2022. The company mainly handles semiconductor products such as analog and power semiconductors, microcontrollers, and SoCs; factory automation (FA) products such as servomotors; and commercial air conditioners. Ryoden procures products from manufacturers and resells them to companies in the automotive, industrial machinery, and construction industries. In its mainstay semiconductor business, the company is a major distributor for Renesas Electronics Corporation. This fact largely explains the high percentage of Ryoden revenue accounted for by automotive applications, and has favorably positioned the company to take advantage of increased demand stemming from the electrification of automobiles. Ryoden's main customers are Panasonic Holdings Corporation, accounting for approximately 15.0% of FY03/22 revenue, and Mitsubishi Electric Group, accounting for approximately 14.0%.

In FY03/22, Ryoden recorded revenue of JPY229.1bn (+16.4% YoY), operating profit of JPY7.1bn (+106.7% YoY), and an OPM of 3.1% (1.7% in FY03/21). The company's segments comprise Electronics (67.4% of revenue and 65.6% of operating profit in FY03/22), FA Systems (18.8% of revenue, 19.0% of operating profit), Cooling & Heating and Building Systems (10.8% of revenue, 14.3% of operating profit), and X-Tech (3.1% of revenue, 1.0% of operating profit). The company was founded in 1947 as a distributor of Mitsubishi Electric sewing machines, radios, and refrigerators. At the time of its founding, sewing machines accounted for a large percentage of its revenue. In the mid-1950s, the company shifted its focus to home electronics (e.g., TVs and refrigerators) manufactured by Mitsubishi Electric. The company has continued to expand into new business areas as the economy changed and developed, entering factory automation in 1960, cooling & heating in 1961, semiconductors in 1965, and building systems in 1971.

Overview of segments

- ▷ Electronics: Main products include semiconductor products such as analog and power semiconductors, microcontrollers, and SoCs. Major suppliers include Renesas Electronics, Micron Memory Japan, Sanken Electric (TSE Prime: 6707), and Mitsubishi Electric. Major customers include Panasonic Holdings, Mitsubishi Electric, and Tier 1 suppliers in the automotive industry. End customers are mainly automobile manufacturers, and demand is linked to automobile production volume.
- ▷ FA Systems: Main products include drive devices (servomotors, inverters, etc.), programmable logic controllers, rotary machines, and power distribution devices. The main supplier is Mitsubishi Electric Corporation. Major customers include Citizen Machinery Co., Ltd. (unlisted) and JUKI Corporation (TSE Prime: 6440). End customers are mainly automobile and semiconductor manufacturers, and demand is linked to machine tool and semiconductor manufacturing equipment orders.
- ▷ Cooling & Heating and Building Systems: Main products include commercial air conditioners, commercial freezers and refrigerators, residential air conditioners, ventilation equipment, heat control equipment, and elevators. Major suppliers include Mitsubishi Electric and Kubota Air Conditioner Co., Ltd. Major customers are air conditioning subcontractors such as Takasago Thermal Engineering Co., Ltd. (TSE Prime: 1969). End customers are mainly office buildings and general contractors, and demand is linked to the number of construction starts.
- ▷ X-Tech: Main products include indoor farm-related equipment, medical information systems, and video camera solutions.

Historical background

The company was founded in 1947 as a distributor of Mitsubishi Electric sewing machines, radios, and refrigerators. At the time of its founding, sewing machines accounted for a large percentage of its revenue. From 1956 to 1964, the company's focus shifted to home electronics (TVs, washing machines, vacuum cleaners, electric kettles, refrigerators, etc.), supported by a period of rapid economic growth (the "Jinmu boom" economy) in Japan.

In 1964, the company relinquished its distributorship of Mitsubishi Electric refrigerators. This was a reform implemented by Mitsubishi Electric intended to shorten distribution channels, and it dealt a heavy blow to Ryoden's performance. In FY03/64, the company recorded revenue of JPY26.1bn and recurring profit of JPY132mn. In FY03/66, it recorded revenue of JPY19.1bn

(-26.9% versus FY03/64) and recurring profit of JPY30mn (-77.6%). The development served as an opportunity for the company to develop its own products rather than relying solely on Mitsubishi Electric products.

In 1969, the company received a request from Mitsubishi Electric to transfer all its home electronics sales operations to local dealers. Mitsubishi Electric's idea was to spin off Ryoden's home electronics division and establish regional sales companies. Ryoden thus faced the threat of losing more than half of its companywide revenue. This series of upheavals resulted in the company losing just under 50% of its workforce. In FY03/72, it posted its first recurring loss.

As company performance subsequently recovered, the semiconductor division became the main contributor to results from 1977 onward. With the advent of LSIs, microcontrollers, and ASICs, the sales model changed from one focused on individual semiconductors to one more focused on systems. In 1978, the company began training personnel to provide technical support on behalf of manufacturers. In 1982, it established the Systems Development Section. This later evolved into the Semiconductor Technology Division, which continued to develop servo microcontroller software for video for Panasonic Holdings (then Matsushita Electric Industrial Co., Ltd.). Panasonic Holdings remains a major customer of the company to this day.

A series of rationalization measures taken by Mitsubishi Electric prompted the company to decide that it did not have a future if it was to be reduced to simply carrying out the functions of a courier (i.e., delivering products from the manufacturer to the customer). Ryoden therefore set its sights on becoming a technology trading company and implemented continuous investment in personnel and capital, particularly in the semiconductor space. Shared Research understands that this was the foundation of the company's current technological expertise in the Electronics, FA Systems, and Cooling & Heating and Building Systems segments, as well as its ability to offer value-added proposals to customers.

Other divisions

- ▷ Cooling & Heating Division: Established in 1961 as the Refrigeration Equipment Section of the Machinery Division. The division handled Mitsubishi Electric's large refrigerated warehouses, and has steadily grown since then, despite ups and downs.
- ▷ Building Systems Division: Established in 1971 as the Elevator Division. While handling Mitsubishi Electric's elevators, the company expanded this business by capturing demand for elevators for high-rise buildings.
- ▷ FA Division: Established in 1960 as the Electric Section of the Machinery Division. The company expanded this business as it handled new factory automation equipment such as Mitsubishi Electric servomotors.

Results by segment

(JPYmm)	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Revenue	221,990	219,225	236,494	240,312	230,087	196,841	229,126
YoY	-6.7%	-1.2%	7.9%	1.6%	-4.3%	-14.4%	16.4%
Electronics	151,210	146,771	158,635	157,440	146,136	126,243	154,390
YoY	-	-2.9%	8.1%	-0.8%	-7.2%	-13.6%	22.3%
% of total	68.1%	66.9%	67.1%	65.5%	63.5%	64.1%	67.4%
FA Systems	40,584	39,619	45,843	46,594	41,460	35,713	42,985
YoY	-	-2.4%	15.7%	1.6%	-11.0%	-13.9%	20.4%
% of total	18.3%	18.1%	19.4%	19.4%	18.0%	18.1%	18.8%
Cooling & Heating and Buildings Systems	23,853	25,185	25,696	27,414	31,500	27,278	24,750
YoY	-	5.6%	2.0%	6.7%	14.9%	-13.4%	-9.3%
% of total	10.7%	11.5%	10.9%	11.4%	13.7%	13.9%	10.8%
X-Tech	6,342	7,647	6,318	8,863	10,990	7,605	6,999
YoY	-	20.6%	-17.4%	40.3%	24.0%	-30.8%	-8.0%
% of total	2.9%	3.5%	2.7%	3.7%	4.8%	3.9%	3.1%
Operating profit	3,673	2,730	5,078	5,624	5,559	3,415	7,062
YoY	-26.4%	-25.7%	86.0%	10.8%	-1.2%	-38.6%	106.8%
Operating profit margin	1.7%	1.2%	2.1%	2.3%	2.4%	1.7%	3.1%
Electronics	2,094	947	2,492	2,464	2,194	1,616	4,859
YoY	-	-54.8%	163.1%	-1.1%	-11.0%	-26.3%	200.7%
Operating profit margin	1.4%	0.6%	1.6%	1.6%	1.5%	1.3%	3.1%
% of total	56.9%	34.7%	49.1%	42.7%	38.4%	43.9%	65.6%
FA Systems	1,021	1,218	1,926	2,000	1,312	572	1,410
YoY	-	19.3%	58.1%	3.8%	-34.4%	-56.4%	146.5%
Operating profit margin	2.5%	3.1%	4.2%	4.3%	3.2%	1.6%	3.3%
% of total	27.7%	44.6%	37.9%	34.7%	23.0%	15.6%	19.0%
Cooling & Heating and Buildings Systems	546	366	528	1,139	1,580	1,197	1,059
YoY	-	-33.0%	44.3%	115.7%	38.7%	-24.2%	-11.5%
Operating profit margin	2.3%	1.5%	2.1%	4.2%	5.0%	4.4%	4.3%
% of total	14.8%	13.4%	10.4%	19.8%	27.7%	32.6%	14.3%
X-Tech	21	197	131	163	627	292	74
YoY	-	838.1%	-33.5%	24.4%	284.7%	-53.4%	-74.7%
Operating profit margin	0.3%	2.6%	2.1%	1.8%	5.7%	3.8%	1.1%
% of total	0.6%	7.2%	2.6%	2.8%	11.0%	7.9%	1.0%
Adjustments	-12	-	-	-143	-155	-263	-341

Source: Company materials

What is an electronics trading company?

Ryoden is an electronics trading company, which is a company that procures semiconductors and electronic components from semiconductor and electronic component manufacturers and resells them to manufacturers of smartphones, home electronics, and automobiles. Shared Research estimates that there are about 30 listed electronics trading companies in Japan alone, and more than 1,000 electronics trading companies if secondary and tertiary trading companies are included.

There are three types of companies involved in the production of electronic products: 1) manufacturers of smartphones, home electronics, and automobiles; 2) manufacturers of semiconductors and electronic components; 3) electronics trading companies. The semiconductor products market accounts for a high percentage of the total electronic components market. For this reason, electronics trading companies that mainly deal in semiconductor products are sometimes referred to as “semiconductor trading companies” (in this report, we use the blanket term “electronics trading companies” for all such companies).

“Manufacturers of smartphones, home electronics, and automobiles” refers to manufacturers of finished products such as smartphones, “white goods” (large electric goods used domestically), and automobiles. “Manufacturers of semiconductors and electronic components” are manufacturers of the semiconductors and electronic components necessary to produce finished products such as smartphones, “white goods,” and automobiles. Semiconductors and electronic components refer to a wide variety of products such as capacitors, resistors, switches, motors, circuit boards, sensors, CPUs/GPUs, and general-purpose ICs.

The function of electronics trading companies and the added value that they provide

The added value provided by electronics trading companies can be summarized under the following five major areas.

Handling business tasks to reduce workloads

Electronics trading companies reduce the workload of their customers by shouldering the entire procurement process for manufacturers of smartphones, home electronics, and automobiles. This includes handling proposals, negotiations, and deliveries of semiconductors and electronic components that meet the needs of these customers. Manufacturers of smartphones, home electronics, and automobiles purchase a wide variety of products from numerous companies—automobiles, for example, are equipped with 30 to 100 microcontrollers and SoCs—and there is a significant burden of checking the trustworthiness of each potential partner before deciding to do business with them. Moreover, electronics trading companies can reduce procurement costs by purchasing in bulk.

Delivery management

Delivery management refers to ensuring the delivery of all components in a predetermined quantity and on a predetermined date. Failing to deliver even a single electronic component on time can disrupt the manufacturing and release schedule of the finished product. The purpose of delivery management is to avoid such risks.

Inventory adjustment

Electronics trading companies coordinate with their customers (manufacturers of smartphones, home electronics, and automobiles) to ensure the stable production of finished products. When a customer requests a shorter delivery time or an increase in supply, the electronics trading company can rapidly respond to the customer's request by shipping its inventory, while negotiating with the component manufacturer for an increase in supply volume.

Supply chain development

Electronics trading companies provide the ability to deliver what is needed, when it is needed, where it is needed (country or region), and in the best possible condition. Although Japanese electronics manufacturers' production bases are spread throughout the world, overseas and inter-regional transportation is time-consuming and labor-intensive. Electronics trading companies provide logistics management and coordination functions to ensure that the supply chains of their customers function smoothly and without delays.

Provision of technical support and information

Electronics trading companies provide technical support and various types of information to manufacturers of smartphones, home electronics, and automobiles by providing expert knowledge of individual electronic components and the latest technical and product information.

▷ Environmental Quality Division

The company has a division called the Environmental Quality Division (18 employees as of end-September 2022). Within this division, the Product Management Section (eight employees) conducts factory audits to inspect the quality of suppliers on behalf of its customers. The company provides this service because electronic products require particularly high quality in terms of performance and safety. Further, when a customer requests that the company look for a particular product, the company audits the quality of the supplier of that product and provides advice on how to improve quality.

▷ Technical Support

Ryoden provides customers with technical proposals and support services. It provides customers with SoCs and microcontrollers designed in-house, and its systems engineers (SEs) and field application engineers (FAEs) provide technical proposals and technical support for these products. A total of 15 SEs and 50 FAEs in Electronics, 13 sales engineers in FA Systems, 22 SEs and 21 service technicians in Cooling & Heating and Building Systems, and six SEs and automatic identification engineers in the X-Tech business handle these technical proposals and provide support services.

Inventory risk of electronics trading companies

Inventory adjustment is part of the added value provided by electronics trading companies. However, holding inventory entails inventory risk, i.e., the risk of loss on valuation of inventory and disposal of inventory. Compared to FA components, which are

capital goods, many electronic components are customized (cannot be resold for other uses) and are used in final products with short product lives. Therefore, the level of inventory held by a trading company is highly relevant to its business strategy.

Electronics trading companies also must be able to deliver products to customers in the countries or regions where they are needed. Electronic component manufacturers (the suppliers) and electronics manufacturers (the customers) are engaged in production in various parts of the world. It is thus necessary for electronics trading companies to have bases near their customers' production sites, and to hold inventories dispersed among these bases.

As of FY03/22, trading companies faced limited inventory risk owing to the global shortage of electronic components. As of October 2022, Ryoden had orders for inventories for automotive and other applications extending approximately 20 months in the future. Nonetheless, holding inventory generally entails inventory risk. According to the company, inventory disposal losses of JPY100–200mn (less than 1% of inventory held) occur every year. The company also records inventory write-downs based on the age of inventory (e.g., six months, 12 months, and 24 months). In addition, the company checks inventories that must be sold at a loss at each accounting period and writes these down on an individual basis (these inventory write-downs are added to the cost of revenue).

The company adopts the reversal method for the write-down of book value due to decreased profitability. If the amount of reversal exceeds the amount of write-down, the cost of revenue is adjusted as a “gain on the reversal of inventory write-downs.”

Inventory write-downs

(JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Merchandise and finished goods	15,662	18,010	21,670	20,510	18,670	25,336	23,784	20,857	19,285	32,850
Inventory write-downs *	0	16	0	319	-221	108	-36	41	-29	-305

Source: Company materials

Note: Negative figures indicate reversals of inventory write-downs.

OPMs for electronics trading companies are around 1–4% worldwide. From a cash flow perspective, holding excessive inventories is a risk to business operations. Therefore, increasing inventory holdings while keeping inventory risk below a certain level requires expansion of the scale of the business. The degree to which the company can keep up with its customers' global expansion and the increase in scale (see below), and the degree to which it must take on inventory risk, are major business decisions for an electronics trading company. Ryoden's basic management policy is not to pursue expansion of the scale of its business, but to keep inventory risk below a certain level while aiming to increase operating profit.

Inventory growth in the wake of the COVID-19 pandemic and the company's response

The global spread of COVID-19 from early 2020 caused factories to shut down, logistics to stagnate, and a surge in demand for some electronics products, resulting in shortages of electronic components. As a result, manufacturers of end products (e.g., smartphones and automobiles) were unable to manufacture products ranging from automobiles and PCs to home electronics. In response to this situation, many end-product manufacturers asked their electronics trading company suppliers to increase the amount of inventory they hold. At Ryoden, the average days in inventory went from 36.5 days from FY03/13–FY03/20 to 44.4 days from FY03/21–FY03/22, an increase of less than 10 days.

Ryoden is responding by increasing the number of orders for which customers have agreed to shoulder collection of the product. The company has a policy of not accepting orders for projects with particularly long delivery times unless the customer has agreed to collect the product from its warehouses. According to the company, most of its customers have agreed to these arrangements. This means that an increase in inventory does not directly translate into inventory risk.

Compared to FA and HVAC products, semiconductor products often require a longer period from order placement to delivery (delivery time). It is thus necessary to hold a relatively large amount of inventory. Conversely, there is little need to hold a large amount of FA and HVAC inventory because in many cases the company can submit an order for these products to a supplier after receiving an order from a customer and still deliver them in time.

The global electronics trading company environment (see “Market and value chain” for details)

Major global electronics trading companies include Arrow Electronics, Avnet, Inc., and WPG Holdings (Taiwan; TPE: 3702). Among these global players, there has been a noticeable movement toward larger scale through M&A activity. At the same time, semiconductor manufacturers have consolidated the number of distributors (electronics trading companies) to which they outsource sales. These moves are against the backdrop of the maturation of the semiconductor market, which has led to the increasing size of electronics end-product manufacturers, semiconductor manufacturers, and semiconductor production equipment manufacturers.

Maturation of the semiconductor market

Products such as PCs in the 1990s and smartphones in the 2000s drove the growth of the semiconductor industry. However, in the 2010s, semiconductor market growth also slowed: from 2011 to 2019, the global semiconductor market (products) had a CAGR of 4.1% versus the 2001–2009 CAGR of 5.0% (source: World Semiconductor Trade Statistics [WSTS]). Even growth in shipments of smartphones, the main end-product today, has clearly slowed since 2017 (see below).

Larger end-product manufacturers

Since the 2000s, the market for smartphones, a representative end-product, has grown significantly. Global shipments of smartphones increased from about 450mn units in 2000 to roughly 1.37bn units in 2019 (source: Gartner). There was a shakeout among smartphone manufacturers during this period, and as of FY03/22, the market was dominated by a handful of players. In Q3 (July–August) 2021, the top three companies accounted for 50% of the market: Samsung Electronics Co., Ltd. (KRX: 005930) with a 21% share, Apple Inc. (NASDAQ: AAPL) with 15%, and Xiaomi Corporation (SEHK: 1810) with 14% (source: IDC Worldwide Quarterly Mobile Phone Tracker). Apple and Samsung Electronics have grown particularly rapidly, benefitting from the growth of the smartphone market since the 2000s.

Larger semiconductor manufacturers

As the semiconductor market has matured and end-product manufacturers have become larger, semiconductor manufacturers have become increasingly oligopolistic by application. For memory, there is Samsung Electronics, SK hynix Inc. (KRX: 000660), and Micron Technology; for logic-related products, there is Intel Corporation (NASDAQ: INTC), Broadcom Inc. (NASDAQ: AVGO), and Qualcomm, Inc. (NASDAQ: QCOM). At the same time, M&A activity is lively. For example, there were 18 large-scale (USD1.0bn or more) M&As in the three-year period from 2015 to 2017 (source: Mergermarket, Gartner).

Larger semiconductor equipment manufacturers

The maturation of the semiconductor market and the increasing size of some end-product manufacturers and semiconductor manufacturers has encouraged semiconductor equipment manufacturers to also become larger and the industry to become more oligopolistic. Semiconductor equipment manufacturers sell semiconductor manufacturing equipment to semiconductor manufacturers and fabrication plants. During the 1990s and 2000s, manufacturers in the front-end and back-end processes of semiconductor manufacturing became increasingly concentrated. In the 2010s, two or three major manufacturers dominated the market in each of the semiconductor manufacturing processes.

Electronics trading companies in Japan

While major electronics trading companies are becoming larger worldwide, electronics trading companies in Japan are divided into two major groups: those pursuing expansion of business scale and those seeking other ways to grow their bottom line. Ryoden falls under the latter category.

The major companies pursuing expansion include Macnica Holdings, Inc. and Kaga Electronics Co., Ltd. Ways of expanding scale include M&A and entering the manufacturing industry, such as the EMS business. Ryoden is seeking to improve its performance by means other than business expansion.

Historical decline: GPMs of semiconductor products

According to the company, GPMs of products handled in its Electronics segment have been declining since 2000. This is not a phenomenon unique to Ryoden, but applies to all electronics trading companies. Shared Research understands that this is due to

the maturation of the semiconductor market and the resulting decline in the growth rate of the industry, as well as to the fact that the distribution of added value has been skewed toward a few major players owing to the expansion of some manufacturers within the supply chain.

Coexistence with other Mitsubishi Electric-affiliated electronics trading companies

Mitsubishi Electric-affiliated electronics trading companies include Tachibana Eletech, Kanaden, and Takebishi Corporation (TSE Prime: 7510). The sales destinations of Mitsubishi Electric products among affiliated trading companies are segregated to some extent according to commercial rights. Therefore, there is no possibility of, for example, another affiliated trading company taking market share from Ryoden by undercutting Ryoden's prices for a given Mitsubishi Electric product that Ryoden has been selling to a given customer for years.

Basic strategy of the company

The company's current medium-term plan clearly emphasizes profitability, with a quantitative target of JPY10.0bn in operating profit in FY03/25 (CAGR 12.3% from FY03/22). To avoid taking on excessive inventory risk, the company does not intend to pursue revenue expansion.

Ryoden aims to create added value through new businesses (other than trading [product sales]) that leverage its technologies in design, monitoring, factory automation, and other areas developed in its Electronics and Factory Automation businesses. The company's basic policy is to increase the ratio of high-margin products.

The company will only create new businesses in areas where it can take advantage of the expertise it has accumulated in its existing businesses. For example, Ryoden is selling environmental control products it developed by combining the LED and sensing technologies used in its Electronics business with manufacturing line management technology and air conditioning technology. The company also operates a smart agriculture business that integrates these technologies. Although it takes time to launch new businesses, the company is working to create new businesses by integrating the expertise of each existing one.

Rising GPM

Over the past 10 years (FY03/13–FY03/22), the company's GPM has gradually increased from 10.1% (FY03/13) to 11.4% (FY03/22). This is due to a change in the company's policy in the Electronics business from expanding revenue to focusing on profit margins. It is also a result of a gradual increase in the revenue composition of the X-Tech business, which has a relatively high GPM.

Gross profit margin

(JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Revenue	203,730	224,766	237,877	221,990	219,225	236,494	240,312	230,087	196,841	229,126
YoY	0.5%	10.3%	5.8%	-6.7%	-1.2%	7.9%	1.6%	-4.3%	-14.4%	16.4%
Gross profit	20,587	22,840	24,065	23,121	22,060	24,432	25,139	25,428	21,843	26,147
YoY	5.8%	10.9%	5.4%	-3.9%	-4.6%	10.8%	2.9%	1.1%	-14.1%	19.7%
Gross profit margin	10.1%	10.2%	10.1%	10.4%	10.1%	10.3%	10.5%	11.1%	11.1%	11.4%

Source: Shared Research based on company data

Differences in profitability by segment

GPMs differ by product. For example, in Electronics, GPMs for microcontrollers and SoCs are in the high single digits. The product GPM is in many cases determined by the product's market share and characteristics. The GPM for the Electronics segment is in the high single digits, while the GPMs for the FA Systems and X-Tech segments hover around 15%. The GPM of the Cooling & Heating and Building Systems segment is higher than all three of these.

Major suppliers

In FY03/22, the company's main suppliers were Mitsubishi Electric Group (30%) and Renesas Electronics Group (21%). The Mitsubishi Electric Group comprises Mitsubishi Electric Corporation, Mitsubishi Electric Living Environment Systems Corporation, Mitsubishi Electric Building Solutions Corporation, Mitsubishi Electric FA Industrial Products Corporation, and Mitsubishi Electric System & Service Co., Ltd.

Other major suppliers include Micron Memory Japan K.K., Sanken Electric Co., Ltd., and Vishay International Asia Pte Ltd (a subsidiary of Vishay Intertechnology, Inc. [NYSE: VHS]).

Major distributorship agreements

Partner	Main products handled	Contract period
Mitsubishi Electric Corporation	Machinery products	One year from November 19, 2004*
	Electrical discharge machines, laser cutting machines, NC equipment	One year from April 1, 2002*
	Elevators and escalators	One year from April 1, 1993*
	Semiconductor products	One year from April 1, 2015*
	Electronic devices	One year from October 1, 1984*
Mitsubishi Electric Corporation, Mitsubishi Electric Living Environment Systems Corporation	Package air conditioners, various cooling equipment	
Sanken Electric	Semiconductors, electronics	One year from April 1, 2018*
	Power supplies	
Renesas Electronics Corporation		From January 1, 2020 until terminated by either party in accordance with the provisions of the contract
Micron Memory Japan K.K.,	Semiconductor products	From January 1, 2022 to June 30, 2022 (contracts from July 1, 2022 onward are in the process of being renewed)
Vishay Intertechnology Asia Pte. Ltd.		From June 1, 2005 until terminated by either party in accordance with the provisions of the contract

Source: Shared Research based on company data

* Automatically renewed

Major customers

The company's main customer is Panasonic Holdings. Over the past 10 years (FY03/13–FY03/22), revenue from Panasonic has ranged from 10.6% (FY03/15) to 15.0% (FY03/22) of Ryoden's revenue. The main products sold to Panasonic are those related to its electronics business, and many of the end customers are in the automotive industry.

In FY03/22, revenue from the Mitsubishi Electric Group accounted for roughly 14% of total revenue. The main products sold to the Mitsubishi Electric Group are those related to its electronics business. Ryoden sells components for Mitsubishi Electric products.

Major customers

Revenue (JPYmn)	FY03/13	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Panasonic Holdings	26,365	25,189	24,192	25,438	33,432	35,146	30,466	25,650	34,367
YoY	12.9%	10.6%	10.9%	11.6%	14.1%	14.6%	13.2%	13.0%	15.0%

Source: Shared Research based on company data

Overview of segments

The company's segments are Electronics (67.4% of revenue and 65.6% of operating profit in FY03/22), FA Systems (18.8% and 19.0%), Cooling & Heating and Building Systems (10.8% and 14.3%), and X-Tech (3.1% and 1.0%).

Electronics (67.4% of revenue, 65.6% of operating profit, 3.1% OPM in FY03/22)

Electronics segment

	Suppliers	Products sold	Customers		End-customer industries
			Industries	Company names	
Electronics	Renesas Electronics	Analog semiconductors	Automotive	Panasonic Holdings	Automobile manufacturers
	Micron Memory Japan	Power semiconductors	Industrial equipment	Mitsubishi Electric	Machine tool manufacturers
	Sanken Electric	Microcontrollers, SoCs	Consumer products	Aisin	Industrial equipment manufacturers
	Mitsubishi Electric	Memory		Denso	
	Vishay	Others (mainly displays)			
	Nichicon	Non-semiconductor materials			
	ABLIC				

Source: Shared Research based on company materials

Mainstay products in the Electronics segment include analog and power semiconductors, microcontrollers, and other semiconductor-related products. Especially noteworthy products include Renesas' R-Car M2 SoC and Mitsubishi Electric's SiC power modules. Major suppliers include Renesas Electronics, Micron Memory Japan, Sanken Electric, Mitsubishi Electric, Vishay, Nichicon Corporation (TSE Prime: 6996), and ABLIC Inc. (unlisted). Major customers include Panasonic Holdings, Mitsubishi Electric, Aisin Corporation (TSE Prime: 7259), and Denso Corporation (TSE Prime: 6902).

End customers are mainly manufacturers of automobiles, machine tools, and industrial equipment. Demand is mainly linked to the number of automobiles produced.

In addition to Ryoden, other major distributors of Renesas Electronics include Ryosan Company, Limited (TSE Prime: 8140) and Shinko Shoji Co., Ltd. (TSE Prime: 8141).

Competitors include Tachibana Eletech, Kanaden, and Ryosan.

Mainstay products

Microcontrollers, memory, logic, analog semiconductors, ASIC, power devices, optical devices, discrete devices, sensors, display devices (LCD, OLED, LED), batteries, general electronic components (coils, capacitors, resistors, filters), connectors, printed circuit boards, other device products, materials (aluminum, high-performance resin, etc.), formed materials (fabricated metal products, molded resin products), and equipment/machinery products.

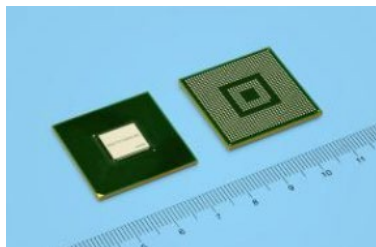
Commercial distribution

The company mainly stores inventory in outsourced warehouses. It handles product delivery through dedicated outside vendors.

▷ Manufacturer → Ryoden → distributor (sales agent) → customer

▷ Manufacturer → Ryoden → customer

Renesas Electronics R-Car M2 SoC



Source: Renesas Electronics website

Mitsubishi Electric SiC power module



Source: Mitsubishi Electric catalog

Micron Memory Japan memory



Source: Ryoden website

FA Systems (18.8% of revenue, 19.0% of operating profit, 3.3% OPM in FY03/22)

FA Systems

	Suppliers	Products sold	Customer industries	Customer companies	End-customer industries
FA Systems	Mitsubishi Electric Mitsubishi Electric System & Service Mitsubishi Electric FA Industrial Products Corporation	Drive equipment (motors, etc.) Control panels Controllers NCs Rotary machines	Machine tool manufacturers Semiconductor equipment manufacturers Control panel manufacturers FA product sales companies Manufacturers (factories)	Citizen Machinery JUKI Industrial Equipment Technology Nitto Kogyo Kasuga Giken Denki Nissan, Subaru, etc.	Metalworking machinery manufacturers Control panel manufacturers to all types of manufacturer Electronics wholesalers

Source: Shared Research based on company materials

Mainstay products in the FA Systems segment include drive equipment (servomotors, inverters, etc.), power distribution equipment, controllers, numerical control (NC), and rotary machines. Major suppliers are Mitsubishi Electric Corporation and its

affiliates. Major customers include Citizen Machinery Co., Ltd., JUKI Corporation, Nitto Kogyo Corporation (TSE Prime: 6651), Kasuga Giken Denki Ltd. (unlisted), Nissan Motor Corporation (TSE Prime: 7201), and Subaru Corporation (TSE Prime: 7270). The company sells to manufacturers of machine tools, semiconductor manufacturing equipment, and control panels. Demand is linked to orders of machine tools and semiconductor manufacturing equipment.

Mitsubishi Electric's main dealers in the FA systems field besides Ryoden include Tachibana Eletech and Kanaden. The company's main supplier is the Mitsubishi Electric Group. Manufacturers competing in the products it handles include Keyence Corporation (TSE Prime: 6861) and Yaskawa Electric Corporation (TSE Prime: 6506).

Mainstay products

Sequencers, servosystems, inverters, motors, programmable controllers, various displays, sensors, circuit breakers, numerical control (NC) devices, industrial robots, laser cutting machines, electric discharge machines, machine vision systems, traceability systems, production control systems, and automation systems.

Commercial distribution

The company jointly operates warehouses with Mitsubishi Electric Corporation. It stores inventory in these warehouses. The company handles product delivery through dedicated outside vendors. Some products are shipped directly from the manufacturer.

- ▷ Manufacturer → Ryoden → electrical materials dealer → customer
- ▷ Manufacturer → Ryoden → control panel manufacturer → customer
- ▷ Manufacturer → Ryoden → end users (manufacturers)
- ▷ Manufacturer → Ryoden → assembly manufacturer

Mitsubishi Electric MELSERVO-J5 AC servo series



Mitsubishi Electric MELSEC iQ-R series sequencers



Mitsubishi Electric inverters



Source: Mitsubishi Electric website

Cooling & Heating and Building Systems (10.8% of revenue, 14.3% of operating profit, and 4.3% OPM in FY03/22)

Cooling & Heating and Building Systems

	Division	Suppliers	Products sold	Customer industries	Customer companies	End-customer industries
Cooling & Heating and Building Systems	Cooling & Heating	Mitsubishi Electric Living Environment Systems	Commercial air conditioners	HVAC subcontractors	Fujikizai	Office buildings
		Mitsubishi Electric	Commercial freezers, refrigerators, and chillers	Sales agents	Fukushima Galilei	Factories
		Kubota Air Conditioner	Room air conditioners		Takasago Thermal Engineering	
		Mitsubishi Electric System & Service			DesignArc	
	Buildings	Mitsubishi Electric Building Solutions	Other building management products	Construction companies, general contractors	Various general contractors	Construction companies, general contractors
		Mitsubishi Electric	Elevators	Companies in any industry responsible for building construction/management	Nintendo	Companies in any industry responsible for building construction/management
		Mitsubishi Hitachi Home Elevator				

Source: Shared Research based on company materials

Mainstay products in Cooling & Heating and Building Systems include commercial air conditioners, low-temperature equipment (commercial freezers and refrigerators), room air conditioners, elevators, and building management products. Major suppliers are Mitsubishi Electric Group and Kubota Air Conditioner Co., Ltd. Cooling and heating accounts for about 80% of segment revenue. Major customers in cooling and heating include Fujikizai Co., Ltd., Fukushima Galilei Co., Ltd. (TSE Prime: 6420), Takasago Thermal Engineering Co., Ltd., DesignArc Co., Ltd. (unlisted), and Kubota Air Conditioner. End customers in the building systems domain include office buildings, factories, and construction companies. Demand is linked to the number of construction starts.

Mitsubishi Electric's main dealers in the cooling and heating field include Mitsubishi Electric Air Conditioning & Refrigeration Equipment Sales Co., Ltd. and Asahi Sangyo Kaisha, Ltd.

Tachibana Eletech and Kanaden are among the company's competitors. The company's main suppliers are Mitsubishi Electric Group and Kubota Air Conditioner. Manufacturers competing in the products it handles include Panasonic Holdings and Daikin Industries, Ltd. (TSE Prime: 6367).

Mainstay products

Packaged air conditioners, room air conditioners, chilling units, EcoCutes, low-temperature equipment (commercial freezers and refrigerators), beverage coolers, clean rooms/constant temperature and humidity systems, ventilation equipment, heat control equipment, elevators, general building management, and solar power generation systems.

Commercial distribution

The company jointly operates warehouses with Mitsubishi Electric Corporation. It stores inventory in these warehouses. The company handles product delivery through dedicated outside vendors. Some products are shipped directly from the manufacturer.

- ▷ Manufacturer → Ryoden → air conditioning subcontractor → customer
- ▷ Manufacturer → Ryoden → (sales) trading company → equipment installation contractor → end user
- ▷ Manufacturer → Ryoden → general contractor → client
- ▷ Manufacturer → Ryoden → client

Mitsubishi Electric multi-split air conditioning for buildings



Mitsubishi Electric outdoor refrigerator/freezer unit



Source: Mitsubishi Electric website

Kubota Air Conditioner unit-type air conditioner



Source: Kubota Air Conditioner website

X-Tech (Cross-Tech) (3.1% of revenue, 1.0% of operating profit, and 1.1% OPM in FY03/22)

X-Tech (Cross-Tech)

Division	Suppliers	Products sold	Customer industries	Customer companies	End-customer industries
X-Tech	Smart agriculture	Undisclosed Materials and construction-related Devices and industrial equipment HVAC equipment management	Foods	Undisclosed	Chemical Agricultural, livestock, and fisheries wholesalers
	Healthcare	Sony Business Solutions Daiwabo Information System GE Healthcare Japan	Hospital IT equipment Medical supplies Radiology equipment	Small and medium-sized hospitals Sumitomo Mitsui Finance and Leasing CSI NEC Corporation	Small and medium-sized hospitals
	ICT	Daiwabo Information System Lenovo Japan	Office automation equipment, PCs, etc. Cameras (FlaRevo, RFID)	Office automation equipment: Mitsubishi Electric Group companies Cameras: Manufacturers Mitsubishi Electric Mitsubishi Electric Building Solutions TMEIC	Camera: Manufacturers (food and beverage)

Source: Shared Research based on company materials

The X-Tech segment combines the company’s technologies in semiconductors (Electronics), factory automation (FA Systems), and air conditioning (Cooling & Heating and Building Systems) that it has developed over the years to create new businesses. Main new X-Tech businesses are indoor agriculture and medical information systems. Farmship, Inc., an equity-method affiliate, had a 36% share of the Japanese indoor agriculture market in 2020 (source: Fuji Keizai Agriculture, Forestry, and Fisheries Business 2020). The segment’s mainstay products include indoor agriculture equipment, medical information systems, and video camera solutions.

Mainstay products

Digital signage, PCs, servers, other information processing equipment, video and image information systems, RFID equipment and systems, surveillance cameras, computer peripherals, computer supplies, medical facilities, medical supplies, and indoor agriculture equipment.

Smart agriculture

Ryoden is engaged in developing and constructing indoor agriculture systems, utilizing its expertise in FA systems, cooling and heating systems, and semiconductor technologies. The company is notable for its ability to provide indoor farms with high operational efficiency through developing specialized products and systems that emphasize compatibility between markets, cultivation methods, and equipment/systems. Equity-method affiliate Farmship, Inc. (Ryoden has a 35% stake as of FY03/22) had a 36% share of the Japanese indoor agriculture market in 2020 (source: Fuji Keizai Agriculture, Forestry, and Fisheries Business 2020).

In April 2021, the company and Farmship established BlockFARM, Inc. to produce indoor farm vegetables. In May 2022, the company completed the construction of BlockFARM, the world's first next-generation indoor farm for large-scale spinach production. Utilizing an environmental control algorithm developed by Ryoden and an IoT system specialized for indoor agriculture, the indoor farm has achieved a 50% reduction in power consumption (according to the company's research) over conventional indoor agriculture. Power consumption has been an issue for conventional indoor agriculture, and the company's innovations have led to both energy conservation and profitability.

Large-scale indoor agriculture



Source: Ryoden website

Healthcare

The company's healthcare business offers various solutions, from image data management to operational support systems. Ryoden supports the design and development of various information systems for hospitals, as well as sales, maintenance, rentals, and cloud computing, thereby reducing initial costs.

ICT

In the ICT business, the company is working on new businesses such as Communication Network, information and communication components, monitoring, RFID, and other solutions.

▷ Communication Network: Disaster prevention and predictive management through the use of LoRaWAN™.

Revenue by region

Revenue by region

(JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Revenue	203,730	224,766	237,877	221,990	219,225	236,494	240,312	230,087	196,841	229,126
YoY	0.5%	10.3%	5.8%	-6.7%	-1.2%	7.9%	1.6%	-4.3%	-14.4%	16.4%
Japan	154,552	160,909	171,535	167,551	170,306	186,382	194,486	187,441	162,581	185,228
YoY	-6.8%	4.1%	6.6%	-2.3%	1.6%	9.4%	4.3%	-3.6%	-13.3%	13.9%
% of total	75.9%	71.6%	72.1%	75.5%	77.7%	78.8%	80.9%	81.5%	82.6%	80.8%
China	26,470	33,258	31,665	25,143	22,315	24,464	23,173	22,146	18,940	24,164
YoY	20.0%	25.6%	-4.8%	-20.6%	-11.2%	9.6%	-5.3%	-4.4%	-14.5%	27.6%
% of total	13.0%	14.8%	13.3%	11.3%	10.2%	10.3%	9.6%	9.6%	9.6%	10.5%
Other Asian countries	16,024	18,111	21,924	18,489	17,219	16,214	15,311	14,278	9,933	12,547
YoY	27.3%	13.0%	21.1%	-15.7%	-6.9%	-5.8%	-5.6%	-6.7%	-30.4%	26.3%
% of total	7.9%	8.1%	9.2%	8.3%	7.9%	6.9%	6.4%	6.2%	5.0%	5.5%
North America	2,018	3,010	4,687	5,285	5,997	6,066	4,661	4,733	3,420	4,715
YoY	105.3%	49.2%	55.7%	12.8%	13.5%	1.2%	-23.2%	1.5%	-27.7%	37.9%
% of total	1.0%	1.3%	2.0%	2.4%	2.7%	2.6%	1.9%	2.1%	1.7%	2.1%
Europe	4,664	9,470	8,061	5,521	3,386	3,365	2,679	1,486	1,965	2,469
YoY	246.5%	103.0%	-14.9%	-31.5%	-38.7%	-0.6%	-20.4%	-44.5%	32.2%	25.6%
% of total	2.3%	4.2%	3.4%	2.5%	1.5%	1.4%	1.1%	0.6%	1.0%	1.1%

Source: Shared Research based on company materials

In FY03/22, Japan accounted for 80.8% of revenue, China for 10.5%, other Asian countries for 5.5%, North America for 2.1%, and Europe for 1.1%. In China, the company mainly develops its Electronics and FA Systems segments in conjunction with the overseas expansion of its Japanese customers. It also sells FA Systems products to local non-Japanese companies. In the rest of Asia, the company's business centers on the Electronics segment. Ryoden has subsidiaries in China, Hong Kong, South Korea, Singapore, Malaysia, Thailand, the US, and Germany. It is developing its overseas business in cooperation with these overseas subsidiaries.

Earnings structure

Revenue

Revenue comprises revenue from Electronics (67.4% of revenue in FY03/22), FA Systems (18.8%), Cooling & Heating and Building Systems (10.8%), and X-Tech (3.1%). Revenue in the FA Systems and Cooling & Heating and Building Systems segments are relatively stable such that companywide revenue tends to be affected by changes in revenue in the Electronics segment. Revenue in the Electronics segment is linked to automobile production volume.

Gross profit

Over the past 10 years (FY03/13–FY03/22), the GPM ranged from 10.1% to 11.4%. It has shown a gradual uptrend. This is a result of the shift in company policy in the Electronics segment from a focus on revenue expansion to a focus on profitability, as well as the gradual increase in the percentage of overall revenue accounted for by the X-Tech business. According to the company, the GPM for the Electronics segment is in the high single digits, while the GPMs for the FA Systems and X-Tech segments hover around 15%. The GPM for the Cooling & Heating and Building Systems segment is higher than the three other segments.

The GPM for FY03/22 appears relatively high due to the application of the Accounting Standard for Revenue Recognition in the same period, which resulted in a roughly JPY5.0bn decrease in revenue recognition.

Gross profit

(JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Revenue	203,730	224,766	237,877	221,990	219,225	236,494	240,312	230,087	196,841	229,126
YoY	0.5%	10.3%	5.8%	-6.7%	-1.2%	7.9%	1.6%	-4.3%	-14.4%	16.4%
Gross profit	20,587	22,840	24,065	23,121	22,060	24,432	25,139	25,428	21,843	26,147
YoY	5.8%	10.9%	5.4%	-3.9%	-4.6%	10.8%	2.9%	1.1%	-14.1%	19.7%
Gross profit margin	10.1%	10.2%	10.1%	10.4%	10.1%	10.3%	10.5%	11.1%	11.1%	11.4%

Source: Shared Research based on company data

SG&A expenses

Over the past 10 years, the SG&A expense ratio has ranged from 7.8 to 9.4%. Personnel expenses, the main item in SG&A expenses, remained between 4.4% and 5.7% (as a percentage of revenue). Changes in personnel expenses are not necessarily

linked to business performance. There have been cases where the company liquidates personnel (overseas) in response to losing commercial rights (sales contracts) with suppliers.

SG&A expenses

SG&A expenses (JPYmn)	FY03/13 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/19 Cons.	FY03/20 Cons.	FY03/21 Cons.	FY03/22 Cons.
Packing and transportation expenses	2,045	2,277	2,168	2,176	2,319	2,403	2,479	2,261	2,516
Payroll and allowances	5,272	5,997	6,368	6,436	6,384	6,338	6,453	6,537	6,508
Bonuses	1,968	2,339	2,345	2,394	2,421	2,500	2,534	2,263	2,631
Retirement benefit expenses	720	608	397	587	677	774	758	746	499
Statutory welfare expenses	1,413	1,606	1,704	1,771	1,750	1,786	1,800	1,728	1,838
Rent	1,133	1,322	1,437	1,482	1,469	1,439	1,429	1,411	1,403
Depreciation	342	518	488	498	445	415	448	354	353
SG&A expenses	16,172	19,072	19,448	19,329	19,354	19,515	19,869	18,427	19,084
SG&A ratio	7.9%	8.0%	8.8%	8.8%	8.2%	8.1%	8.6%	9.4%	8.3%
Personnel expense ratio	4.6%	4.4%	4.9%	5.1%	4.7%	4.7%	5.0%	5.7%	5.0%
Rent expense ratio	0.6%	0.6%	0.6%	0.7%	0.6%	0.6%	0.6%	0.7%	0.6%

Source: Shared Research based on company data

Operating profit

(JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Revenue	203,730	224,766	237,877	221,990	219,225	236,494	240,312	230,087	196,841	229,126
YoY	0.5%	10.3%	5.8%	-6.7%	-1.2%	7.9%	1.6%	-4.3%	-14.4%	16.4%
Gross profit	20,587	22,840	24,065	23,121	22,060	24,432	25,139	25,428	21,843	26,147
Gross profit margin	10.1%	10.2%	10.1%	10.4%	10.1%	10.3%	10.5%	11.1%	11.1%	11.4%
SG&A expenses	16,172	17,561	19,072	19,448	19,329	19,354	19,515	19,869	18,427	19,084
SG&A ratio	7.9%	7.8%	8.0%	8.8%	8.8%	8.2%	8.1%	8.6%	9.4%	8.3%
Operating profit	4,414	5,278	4,992	3,673	2,730	5,078	5,624	5,559	3,415	7,062
YoY	10.3%	19.6%	-5.4%	-26.4%	-25.7%	86.0%	10.8%	-1.2%	-38.6%	106.8%
Operating profit ma	2.2%	2.3%	2.1%	1.7%	1.2%	2.1%	2.3%	2.4%	1.7%	3.1%

Source: Shared Research based on company data

Over the past 10 years, the OPM has ranged from 1.2 to 3.1%. As with gross profit, the OPM has been slowly improving in the Electronics segment due to a shift in company policy from a focus on expanding revenue to a focus on profitability.

Forex sensitivity

In FY03/22, operating profit increased by JPY15–20mn for every JPY1 depreciation against the US dollar. The company uses forward exchange contracts to hedge against forex fluctuations in its business. Its basic policy is to hedge approximately 90% of the scheduled amount for the following month at the end of the current month for both buying and selling the products it handles.

Market and value chain

Market overview

Basic functions and classifications of trading companies

Core functions of trading companies

The core function of a trading company is to conduct business transactions. Trading companies promote the buying and selling of goods and services by taking advantage of supply–demand and information gaps. They also provide related services such as logistics (transportation, customs clearance, processing, and inventory), finance (financing, investment, settlement, and foreign exchange), insurance (marine, import/export, and fire), and legal and screening services.

Role of specialized trading companies

Trading companies are divided into general trading companies and specialized trading companies. Ryoden belongs to the latter. The role of a specialized trading company is to facilitate transactions between client companies by leveraging its in-depth expertise, marketing capabilities, and customer service skills in specific fields. The company earns trading margins on completed transactions. In addition to negotiating with the buyer on product prices, specifications, delivery dates, and other conditions, trading companies must also deal with issues with the products. The personnel facilitating these negotiations are a specialized

trading company’s greatest management resource. Ryoden is a specialized trading company that deals mainly in electronics products.

Electronics trading companies

Ryoden is an electronics trading company, which is a trading company that deals mainly in electronic components. Electronic components are components for electronic control and communication devices that are incorporated into many mechanical products, such as various home electronics, information terminals, and automobiles. The electronic components that the company handles are mainly semiconductor components. Semiconductor components are responsible for computerized calculation and control.

The value provided by an electronics trading company includes operational workload reduction, delivery management, inventory adjustment, supply chain development, and technical support and information provision (see “Business” for details).

Inventory adjustment, a part of the added value provided by electronics trading companies, entails inventory risk, i.e., the risk of inventory write-downs and disposal losses. One of the major management decisions for an electronics trading company is how much inventory risk it will take in operating its business.

Electronic components

Electronic components are parts used in electronic circuits. They come in a wide variety and include capacitors, resistors, switches, motors, circuit boards, sensors, CPUs/GPUs, and general-purpose ICs. Semiconductors account for a large percentage of the electronic components market.

Types of electronic components

	Category	Components
Electronic components	Semiconductors	Discrete semiconductors, LSIs, etc.
	Displays	
	Sensors	
	Passive components	Resistors, capacitors, inductors, filters, etc.
	Functional components	Antennas, motors, speakers, connectors, switches
	Crystal components	Quartz crystal units, crystal oscillators
	Power supplies	
	Others	

Types of semiconductor products

	Category	Components
Semiconductors	Discrete semiconductors	Power semiconductors
		CCDs, image sensors
	LSIs	Memory
		Logic
		System LSIs

Source: Shared Research based on [Power Semiconductors: Basics and Mechanisms](#) by Junichi Sato (Shuwa Systems)

Power semiconductors

Power semiconductors are semiconductors that convert electricity and control motors, lighting, and other devices. Power semiconductors are characterized by the large voltages and currents they handle. Specifically, power semiconductors supply power (electricity) including by converting AC to DC, stepping down a voltage to 5V or 3V, driving motors, charging batteries, and operating microcontrollers and LSIs.

Global shares of the power semiconductor market (including those for automotive use) as of 2020 were as follows: Infineon Technologies AG 26% (FWB: IFX), ON Semiconductor 10% (NASDAQ: ON), Mitsubishi Electric 9%, Toshiba Corporation 7% (TSE Prime: 6502), STMicroelectronics NV 6% (NYSE: STM), and Fuji Electric Co., Ltd. 6% (TSE Prime: 6504) (source: IHS Markit). In addition to Mitsubishi Electric, Toshiba, and Fuji Electric, other major players in Japan include Renesas Electronics, Rohm Co., Ltd. (TSE Prime: 6963), and Denso.

About the semiconductor market

The company's Electronics segment mainly handles semiconductor components. Major suppliers include Renesas Electronics, Micron Memory Japan, and Sanken Electric. The mainstay semiconductor products handled include analog semiconductors, power semiconductors, SoC, and microcontrollers. The company's main end customers are in the automotive industry.

Meanwhile, Intel and Samsung Electronics are the major manufacturers (suppliers) in the global semiconductor market. Their main semiconductor products are Logic and DRAM. The main end customers are manufacturers of PCs and mobile phones.

By manufacturer

By manufacturer, the top companies are Intel, a logic manufacturer, and Samsung Electronics, SK hynix, and Micron Technology, which are memory manufacturers.

By manufacturer (total of USD428.7mn in 2019)

	Manufacturer	Share
1	Intel	17%
2	Samsung Electronics	12%
3	SK hynix	5%
4	Micron Technology	5%
5	Broadcom Limited	4%

Source: Shared Research based on Omdia's "Infrastructure Development for Data-Driven Society in Japan in FY2020"

By application

By application, information equipment (PCs, peripherals) and wireless communications equipment (mobile phones, cellular base stations) are the top markets. The automotive market, where the company has strength, accounts for about 10% of the total market by application.

By application (total of USD428.7mn in 2019)

	Industry	Share
1	Information equipment	34%
2	Wireless communications equipment	29%
3	Industrial equipment	11%
4	On-board equipment	10%
5	Consumer electronics	9%
6	Wired communications equipment	6%

Source: Shared Research based on Omdia's "Infrastructure Development for Data-Driven Society in Japan in FY2020"

Note: Industrial equipment (factory automation equipment, energy equipment), on-board equipment (on-board control panels, on-board information equipment), consumer electronics (AV equipment, "white goods"), wired communications equipment (fixed-line phones, modems, LAN cards)

On-board equipment (automotive semiconductors)

On-board semiconductors (2021)

	Manufacturer	Revenue
1	Infineon Technologies	695,900
2	NXP Semiconductors	608,500
3	Renesas Electronics	508,500
4	STMicroelectronics	477,200
5	Denso	420,000

Source: Shared Research based on Gartner, Inc. (US) and Denso materials

* Millions of yen

On-board semiconductors are semiconductor products installed in automobiles. Automobiles typically require several dozen to over 100 semiconductors, depending on the type of automobile. There are three main types of on-board semiconductors: those for vehicle body and driving control, those installed in engines, and those for navigation and audio control.

- ▷ Microcontrollers and SoCs: These control vehicle movements such as cruising, turning, and stopping. Microcontrollers repeatedly perform calculations according to commands from input devices such as switches and sensors, and communicate the calculation results to output devices such as motors and LEDs. A microcontroller consists of a CPU, memory, and peripherals. Market shares of microcontrollers for automotive applications in 2021 were as follows: NXP Semiconductors N.V. 19% (NASDAQ: NXPI), Microchip Technology 18% (NASDAQ: MCHP), Renesas Electronics 17%, STMicroelectronics NV 17%, and Infineon Technologies AG 12% (source: IC Insights).

- ▷ Power semiconductors: These control electrical systems such as power and voltage. Automotive power semiconductors include metal-oxide-semiconductor field-effect transistors (MOSFETs), insulated gate bipolar transistors (IGBTs), and diodes. Their main roles are to change voltage and frequency, and convert power between AC and DC.
- ▷ Sensors: These measure distance and images inside and outside the vehicle. Specific products include image sensors, millimeter-wave radar, and LiDAR.

By component

By component (total of USD428.7mn in 2019)

	Product	Share
1	Logic ASSP	18%
2	DRAM	14%
3	MPU	14%
4	NAND	11%
5	Optical Semiconductor	9%
5	Analog Application Specific IC	9%

Source: Shared Research based on Omdia's "Infrastructure Development for Data-Driven Society in Japan in FY2020"

By component, major semiconductor products include Logic, DRAM, MPU, and NAND.

The logic market

The logic market (total of USD105.2bn in 2019)

	Manufacturer	Share
1	Broadcom	13%
2	Intel	13%
3	Qualcomm	10%
4	NVIDIA	9%
5	Hisilicon Technology	7%

Source: Shared Research based on Omdia's "Infrastructure Development for Data-Driven Society in Japan in FY2020"

Broadcom, Intel, and Qualcomm are the major players in the logic market.

The memory market

The memory market (total of USD112.5bn in 2019)

	Manufacturer	Share
1	Samsung Electronics	38%
2	SK hynix	20%
3	Micron Technology	18%
4	Kioxia	8%
5	Western Digital	6%

Source: Shared Research based on Omdia's "Infrastructure Development for Data-Driven Society in Japan in FY2020"

Samsung Electronics and SK hynix are the major players in the memory market.

The MPU market

The MPU market (total of USD59.0bn in 2019)

	Manufacturer	Share
1	Intel	90%
2	AMD	9%
3	Other	1%

Source: Shared Research based on Omdia's "Infrastructure Development for Data-Driven Society in Japan in FY2020"

Intel and Advanced Micro Devices, Inc. (NASDAQ: AMD) are the major players in the MPU market.

Analog market

Analog semiconductors are semiconductors that process and control continuous electrical signals (analog signals) for changes in physical phenomena such as light, sound, temperature, and pressure. Analog semiconductors convert analog signals such as light, heat (temperature), sound, and vibration captured by sensors into digital signals (or vice versa).

Analog market (total of USD57.7bn in 2019)

	Manufacturer	Share
1	Texas Instruments	17%
2	Analog Devices	9%
3	Qualcomm	7%
4	STMicroelectronics	5%
5	Skyworks	5%

Source: Shared Research based on Omdia's "Infrastructure Development for Data-Driven Society in Japan in FY2020"

Optical semiconductors

Optical semiconductors (total of USD38.5bn in 2019)

	Manufacturer	Share
1	Sony	21%
2	Samsung	9%
3	Nichia	6%
4	Broadcom	5%
5	Omnivision	4%

Source: Shared Research based on Omdia's "Infrastructure Development for Data-Driven Society in Japan in FY2020"

Optical semiconductors include image sensors, laser diodes, and LEDs. Sony Group Corporation (TSE Prime: 6758) is a leader in image sensors.

Maturation of the semiconductor market

Products such as PCs in the 1990s and smartphones in the 2000s drove the growth of the semiconductor industry. However, in the 2010s, semiconductor market growth slowed: from 2011 to 2019, the global semiconductor market (products) had a CAGR of 4.1% versus the 2001–2009 CAGR of 5.0% (source: World Semiconductor Trade Statistics [WSTS]). Even growth in shipments of smartphones, the main end-product today, has clearly slowed since 2016 (see below).

Global semiconductor market

(USDmn)	2011	2012	2013	2014	2015	2016	2017	2018	2019	CAGR
Semiconductor products	299,521	291,562	305,584	335,843	335,168	338,931	412,221	468,778	412,307	4.1%
YoY	0.4%	-2.7%	4.8%	9.9%	-0.2%	1.1%	21.6%	13.7%	-12.0%	

Source: Shared Research based on WSTS Japan Council statistics

Global smartphone shipments

(Million units)	2011	2012	2013	2014	2015	2016	2017	2018	2019	CAGR
Shipment	495	725	1,019	1,302	1,437	1,473	1,466	1,405	1,373	18.2%
YoY	62.3%	46.7%	40.5%	27.8%	10.4%	2.5%	-0.5%	-4.1%	-2.3%	-

Source: Shared Research based on Statista data

Enormous growth of end-product manufacturers

The maturing market for smartphones, a leading end-product, has caused a shakeout among smartphone manufacturers and as of FY03/22, the market was dominated by only a few manufacturers. In Q3 2021 (July–September), the top three manufacturers accounted for 50% of the market in terms of smartphone shipments: Samsung Electronics had a 21% share, Apple a 15% share, and Xiaomi a 14% share (source: IDC Worldwide Quarterly Mobile Phone Tracker). Apple and Samsung Electronics have grown particularly rapidly, benefitting from the growth of the smartphone market since the 2000s.

Apple recorded revenue of USD394bn, operating profit of USD119bn, and capital expenditures of USD10bn in FY09/22. Apple operates a wide range of businesses, but is also a smartphone giant. The company's iPhones accounted for 15% of smartphones sold worldwide in July–September 2021. They have around 1,500 electronic components of various types. When electronic component manufacturers who supply components for the iPhone negotiate prices with Apple, important factors are their product market share and availability.

Samsung Electronics recorded revenue of USD244bn, operating profit of USD45bn, and capital expenditures of USD41bn in FY12/21. Samsung Electronics has the top global share of smartphones, NAND flash memory, and DRAM.

Performance of major companies purchasing semiconductor products and semiconductor manufacturing equipment (FY12/21)

(USDmn)	Apple	Samsung Ele.	Intel	TSMC
Revenue	394,328	244,388	79,024	56,822
Operating profit	119,437	45,130	19,456	23,266
Capital expenditures	10,708	41,187	18,700	30,039

Source: Shared Research based on company data
* Apple results are for FY09/22

Share of smartphone shipments by manufacturer in Q3 2021 (July–September)

	Manufacturer	Share
1	Samsung Electronics	21%
2	Apple	15%
3	Xiaomi	14%

Source: Shared Research based on Canalis materials

Increased M&A activity among semiconductor manufacturers

The maturation of the semiconductor market and the increasing size of end-product manufacturers has precipitated a shift among semiconductor manufacturers toward larger scale through M&A activity. For example, there were 18 large-scale (USD1.0bn or more) M&As in the three-year period from 2015 to 2017. There have also been many cases where M&As were rejected due to antitrust and political considerations. These include the acquisition of NXP Semiconductors by Qualcomm (2016; proposed purchase price of USD51.9bn), Broadcom's acquisition of Qualcomm (2018; USD117.0bn) and NVIDIA Corporation's (NASDAQ: NVDA) acquisition of Arm Holdings plc (a subsidiary of Softbank Group Corporation [TSE Prime: 9984]) (2022; USD40.0bn).

Large-scale acquisitions by semiconductor manufacturers (2015–2017; USD1.0bn or more)

	Acquiring company	Acquired company	Acquisition price	Notes
2015	NXP Semiconductor	Freescale Semiconductor	15,972	Merger of two companies that hold a high share of the automotive semiconductor and general-purpose microcontroller markets.
	CITIC, Hua Capital, etc.	Omnivision Technologies	1,831	Omnivision, a leading image sensor company, was acquired by a Chinese investment fund.
	Avago Technologies	Broadcom	33,689	The merger was said to be aimed at strengthening the telecommunications field in preparation for the spread of LTE.
	Intel Corporation	Altera Corporation	15,444	Intel acquired Altera's mainstay FPGAs for the telecom market.
	Qualcomm	CSR Plc	2,191	Qualcomm acquired CSR, which has strengths in Bluetooth and audio-related semiconductors, with plans to strengthen IoT and on-board applications.
	Skyworks Solutions	PMC-Sierra	2,171	Skyworks Solution aimed to expand its business for data centers by adding PMC-Sierra's optical switches, network infrastructure solutions, etc.
	Western Digital Corporation	SanDisk Corporation	17,802	Western Digital, a major HDD manufacturer, acquired SanDisk, which manufactures and sells NAND and other products.
	ON Semiconductor Corp.	Fairchild Semiconductor Int.	2,223	In the analog semiconductor field, ON Semiconductor acquired Fairchild, which is strong in high-voltage power devices.
2016	Microchip Technology	Atmel Corporation	3,278	Microchip acquired Atmel, a leading MCU manufacturer.
	Micron Technology	Inotera Memories	3,200	Micron Technology acquired a stake in Inotera Memories, a DRAM joint venture, from Nanya Technology.
	Softbank	ARM Holdings	30,165	ARM Holdings is the world's largest CPU core IP vendor.
	Analog Devices	Linear Technology Corp.	12,995	In the analog semiconductor industry, the acquisition of Linear Technology, which specializes in power supply analog ICs, complements Analog Devices' strength in signal processing analog ICs.
	Renesas Electronics	Intersil Corporation	2,962	Intersil is an analog IC manufacturer that specializes in power supply ICs.
	Siemens AG	Mentor Graphics Corporation	4,148	Mentor Graphics develops software for IC design.
	TDK	InvenSense	1,110	InvenSense is a fabless manufacturer of inertial, accelerometer, and gyro sensors.
2017	Intel Corporation	Mobileye N.V	14,993	Mobileye has technologies related to sensor fusion, mapping, and front and rear cameras.
	Bain Capital, etc.	Toshiba Memory	10,644	Toshiba sold its memory business to improve its financial position amid accounting problems.
	Marvell Technology Group	Cavium, Inc.	6,306	Cavium's main products are a wide range of networking and communications chips.

Source: Shared Research based on reporting from Mergermarket, Gartner, and others
* Purchase price unit is millions of US dollars

Larger semiconductor equipment manufacturers

The maturation of the semiconductor market and the increasing size of some end-product manufacturers and semiconductor manufacturers have encouraged semiconductor equipment manufacturers also to become larger and the industry to become more oligopolistic. Semiconductor equipment manufacturers sell semiconductor manufacturing equipment to semiconductor manufacturers and fabrication plants. During the 1990s and 2000s, manufacturers in the front-end and back-end processes of semiconductor manufacturing became increasingly concentrated. In the 2010s, two or three major manufacturers dominated the market in each of the semiconductor manufacturing processes.

Against this backdrop, in 2013, Applied Materials, Inc. (NASDAQ: AMAT), the largest manufacturer of semiconductor manufacturing equipment, and Tokyo Electron Limited (TSE Prime: 8035), the third largest (at the time), announced a merger. However, the merger was rejected by the US Department of Justice in 2015 on antitrust grounds. The merger talks between the two industry giants are believed to have been driven by the need to raise development funding for increasingly sophisticated

products, cut costs, and strengthen their ability to negotiate prices with their increasingly large semiconductor manufacturer customers.

Revisions to distributor policies by semiconductor manufacturers

As the semiconductor market moved into a mature phase, semiconductor manufacturers began to consolidate the number of distributors (electronics trading companies) to which they outsource sales.

For example, Renesas Electronics, one of Ryoden's main suppliers, has reduced the number of its distributors from 30 since its inception in 2010 to 16. In 2019, Renesas began considering reducing the number of specialized trading companies with which it concludes distributorship agreements from the 16 to six. It then carried out this plan, reducing its distributors to around six companies, which it calls "special distributors," including Ryosan, Ryoden, and Tachibana Eletech.

Historic decline: GPMs of semiconductor products

According to the company, GPMs of products handled in its Electronics segment have been declining since 2000. This is not a phenomenon unique to Ryoden, but applies to all electronics trading companies. GPMs for products handled by electronics trading companies vary by product. Shared Research understands that this is due to the maturation of the semiconductor market and the resulting decline in the growth rate of the industry, as well as to the fact that the distribution of added value has been skewed toward a few major players owing to the expansion of some manufacturers within the supply chain.

Main competitors

The company is a specialized trading company. From the standpoint of shareholder equity, specialized trading companies can be categorized into independent trading companies, general trading company-affiliated specialized trading companies, and manufacturer-affiliated specialized trading companies.

Independent trading companies operate independently from the standpoint of shareholder equity and leverage their own connections to operate their businesses with a relatively high degree of freedom.

General trading company-affiliated specialized trading companies are subsidiaries of general trading companies that handle niche products that their parents do not. Examples include Marubeni-Itochu Steel Inc. (a trading company specializing in steel established by integrating the steel product businesses of Marubeni and Itochu) and Mitsubishi Shokuhin Co., Ltd. (TSE Standard: 7451; a subsidiary of Mitsubishi Corporation).

Manufacturer-affiliated specialized trading companies have a capital relationship with a specific manufacturer and mainly sell the products of that manufacturer. Examples of manufacturer-affiliated trading companies include Nippon Steel Trading Co., Ltd. (TSE Prime: 9810; an equity-method affiliate of Nippon Steel Corporation [TSE Prime: 5401]) and Shinsho Corporation (TSE Prime: 8075; Kobe Steel Ltd. has a 13.3% stake). Ryoden is a manufacturer-affiliated specialized trading company with 35.6% of its shares owned by Mitsubishi Electric.

Global electronics trading company

Ryoden is an electronics trading company. Major global electronics trading companies are competing to expand their scale through M&A activity as the semiconductor market matures. Some of the world's leading electronics trading companies include Arrow Electronics, Avnet, Inc., and WPG Holdings.

For example, Arrow Electronics has been aggressively expanding its business since 2015, acquiring elnfochips, UBM Tech Electronics Network, Distribution Central, immixGroup, ATM Electronic, and others. Avnet, Inc. has also expanded its business through more than 100 M&As since 1991.

Global electronics trading companies

Fiscal year-end Unit	Ryoden	Arrow Electronics	Avnet	WPG Holdings
	March 31, 2022 JPYmn	December 31, 2021 USDmn	July 2, 2022 USDmn	December 31, 2021 TWDmn
Revenue	229,126	34,477	24,310	778,572
Gross profit margin	11.4%	12.2%	12.2%	3.8%
SG&A ratio	8.3%	7.1%	8.2%	2.0%
Operating profit	7,062	1,557	939	13,803
Operating profit margin	3.1%	4.5%	3.9%	1.8%
Total assets	140,970	19,536	10,389	287,739
Equity ratio	53%	27%	40%	25%
Number of employees	1,214	20,700	15,300	5,602
Revenue per employee	189	2	2	139
Operating profit per employee	5.82	0.08	0.06	2.46
ROA (RP-based)	5.5%	7.9%	8.6%	5.4%
ROE	6.9%	21.1%	16.7%	17.0%
Net income/revenue	2.2%	3.2%	2.8%	1.5%
Revenue/total assets	1.6	1.9	2.5	3.0
Total assets/equity	1.9	3.8	2.5	4.0
Days in accounts receivable	113	108	59	61
Days in inventory	47	45	64	35
Days in accounts payable	91	93	44	33
Cash conversion cycle (CCC)	68	60	79	63
Number of overseas countries expanded	9	53	48	N/A
Established	1947	1935	1921	2005

Source: Shared Research based on company materials

Compared to Ryoden, the three largest companies have higher average ROE (6.9% for Ryoden versus an average of 18.3% for the three largest companies). This is because the three largest companies have lower equity ratios (53% for Ryoden versus an average of 31% for the three largest companies) and more efficiently leverage assets to generate revenue (asset turnover ratio of 1.6 for Ryoden versus an average of 2.5 for the three largest companies). On the other hand, there is only a small difference in cash conversion cycles (CCCs) (68 days for Ryoden versus an average of 67 days for the three largest companies). In other words, the three largest companies have lower equity ratios than Ryoden, but virtually the same CCC, meaning that they are efficiently converting assets into revenue. Shared Research understands that, given the difference in business scale, the three largest companies are not taking more risks than Ryoden.

Trends in Japan's electronics trading companies

There are many electronics trading companies in Japan, including more than 20 listed companies. Two main types of electronics trading companies in Japan have emerged amid the trends of the global semiconductor market: large companies seeking to expand their business scale, and companies seeking other ways to grow their bottom line. Ryoden belongs to the latter group.

Major Japanese electronics trading companies: Pursuing business expansion

Macnica Holdings and Kaga Electronics are among the major companies pursuing expansion of scale. In addition to M&As, other means of expanding scale include entering manufacturing such as the EMS business.

Macnica Holdings was created in 2015 through the merger of electronics trading companies Macnica Inc. and Fuji Electronics Co., Ltd. With the integration of overseas semiconductor manufacturers and the maturation of the domestic market, the two companies agreed to the merger because of the need to step up procurement and sales, which the post-merger increase in size would help them to do.

Kaga Electronics is an independent electronics trading company established in 1968. In addition to being a trading company, Kaga Electronics operates an EMS business (manufacturing) and owns 21 factories. At the same time, it has acquired four companies in the last three years (since 2019), including excel Co., Ltd. and Fujitsu Electronics Inc. In 2015, Kaga Electronics announced a merger with UKC (now Restar Holdings). In a press release, Kaga Electronics stated, "The business environment surrounding electronics trading companies is becoming even more challenging due to accelerating changes in the external

environment, such as semiconductor manufacturers' integration, customers' shift to overseas production, and suppliers' review of their distributor policies." Ultimately, the two companies failed to reach an agreement in the final talks and did not move forward with the merger.

Japan's major electronics trading companies (FY03/22)

	Ryoden	Macnica Holdings	Kaga Electronics
Revenue (JPYmn)	229,126	761,823	495,827
Gross profit margin	11.4%	11.9%	12.2%
SG&A ratio	8.3%	7.1%	8.0%
Operating profit (JPYmn)	7,062	36,707	20,915
Operating profit margin	3.1%	4.8%	4.2%
Total assets (JPYmn)	140,970	362,584	272,139
Equity ratio	53%	47%	39%
Number of employees	1,214	3,925	7,959
Revenue per employee (JPYmn)	188.7	194.1	62.3
Operating profit per employee (JPYmn)	5.8	9.4	2.6
ROA (RP-based)	5.5%	11.2%	8.4%
ROE	6.9%	16.5%	15.7%
Net income/revenue	2.2%	3.4%	5.7%
Revenue/total assets	1.6	2.1	1.8
Total assets/equity	1.9	3.8	2.9
Days in accounts receivable	113	66	84
Days in inventory	47	61	42
Days in accounts payable	91	23	61
Cash conversion cycle (CCC)	68	103	65
Electronics business revenue composition	67%	89%	88%
Number of contracted companies of managerial importance	5	8	39
Overseas revenue composition	19%	53%	47%
Number of overseas countries expanded	9	23	13
Number of overseas bases	48	85	64
Established	1947	2015	1968

Source: Shared Research based on company materials

* Electronics business: Refers to Macnica Holdings' "Integrated Circuits and Electronic Devices and Others Business" and Kaga Electronics' "Electronic Components Business."

The two largest domestic companies have higher ROE than Ryoden (6.9% for Ryoden versus an average of 16.1% for the two largest domestic companies in FY03/22). This is because they have higher net income margins (2.2% for Ryoden versus an average of 4.5% for the two largest domestic companies), lower equity ratios (53% for Ryoden versus an average of 43% for the two largest domestic companies), and more efficient use of assets to generate revenue (asset turnover ratio: 1.6 for Ryoden versus an average of 2.0 for the two largest domestic companies). On the other hand, the two largest domestic companies have a longer average cash conversion cycle (CCC): 84 days versus Ryoden's 68 days. Shared Research understands that this is because the electronics business accounts for a high percentage of total revenue for the two major companies (67% for Ryoden versus an average of 88% for the two largest domestic companies), and they operate their businesses by holding large amounts of inventory (the company's days in inventory is 47 days versus an average of 51 days for the two largest domestic companies).

Electronics trading company competitors

In Japan, listed electronics trading companies alone number more than 20. All but a few of the largest of these are looking for ways to grow their bottom line other than through business expansion. Ryoden is one of the companies looking for ways to grow other than by increasing its top line.

There are many electronics trading companies aiming for growth by means other than business expansion that do not directly compete with Ryoden owing to the breadth of the electronics products market and the fact that many players handle different ranges of electronic components and semiconductor products.

There are also regional differences in business development depending on whether a company is an independent trading company or a manufacturer-affiliated trading company. As a manufacturer-affiliated trading company, Ryoden mainly handles Mitsubishi Electric and Renesas Electronics products and operates mainly in Japan.

Independent electronics trading companies

Independent trading companies are trading companies that have no capital ties to specific manufacturers or general trading companies. In the electronics trading industry, Ryosan, Marubun Corporation (TSE Prime: 7537), and Sanshin Electronics Co., Ltd. (TSE Prime: 8150) are independent trading companies.

Electronics trading companies with strong ties to specific semiconductor manufacturers

Electronics trading companies with strong ties to specific semiconductor manufacturers include Tokyo Electron Device Ltd. (TSE Prime: 2760) and Tomen Devices Corporation (TSE Prime: 2737). Tokyo Electron Device is a manufacturer-affiliated trading company with 33.8% of its shares owned by Tokyo Electron Limited (TSE Prime: 8035). The company's main products include analog ICs, processors, and logic ICs.

Tomen Devices Corporation is a general trading company with 26.6% of its shares held by Toyota Tsusho Corporation (TSE Prime: 8015). Samsung Japan Corporation meanwhile holds 12.2% of Tomen Devices Corporation shares. Tomen Devices is responsible for marketing the semiconductors and electronic components of the Samsung Group (including Samsung Electronics) both domestically and internationally.

Mitsubishi Electric-affiliated electronics trading companies

Ryoden is one of the largest electronics trading companies affiliated with Mitsubishi Electric Corporation (35.6% of its shares were held by Mitsubishi Electric as of end-FY03/22). Listed affiliates of Mitsubishi Electric include Tachibana Eletech (7.6% stake as of end-FY03/22), Kanaden (25.1% stake as of end-FY03/22), and Takebishi (14.6% stake as of end-FY03/22). In FY03/22, Mitsubishi Electric accounted for about 62% of Tachibana Eletech's and 70% of Kanaden's procurement in terms of value (it accounted for about 30% of Ryoden's procurement).

Major independent competitors (FY03/22)

	Ryoden	Ryoyo Electro	Marubun	Hakuto	Sanshin Electronics
Revenue (JPYmn)	229,126	112,099	167,794	191,495	123,583
Gross profit margin	11.4%	9.6%	12.1%	12.5%	10.9%
SG&A ratio	8.3%	7.6%	8.5%	8.7%	7.5%
Operating profit (JPYmn)	7,062	2,258	5,994	7,304	4,209
Operating profit margin	3.1%	2.0%	3.6%	3.8%	3.4%
Total assets (JPYmn)	140,970	72,652	148,179	131,490	72,809
Equity ratio	53%	58%	29%	47%	42%
Number of employees	1,214	715	1,119	1,221	579
Revenue per employee (JPYmn)	189	157	150	157	213
Operating profit per employee (JPYmn)	5.8	3.2	5.4	6.0	7.3
ROA (RP-based)	5.5%	3.6%	3.0%	6.0%	4.5%
ROE	6.9%	4.7%	5.9%	8.3%	6.8%
Net income/revenue	2.2%	1.7%	1.5%	2.6%	4.0%
Revenue/total assets	1.6	1.5	1.1	1.5	1.7
Total assets/equity	1.9	0.8	1.6	1.4	0.8
Days in accounts receivable	113	94	104	90	102
Days in inventory	47	56	80	80	57
Days in accounts payable	91	42	56	42	41
Cash conversion cycle (CCC)	68	108	128	128	118
Electronics business revenue composition	67%	57%	70%	82%	89%
Main supplier (1)	Mitsubishi Electric Group : 30%	N/A	N/A	N/A	N/A
Main supplier (2)	Renesas Group : 21%	N/A	N/A	N/A	N/A
Main customer (1)	Panasonic : 15%	TCL ELE. : 16%	Shenzhen Murata Technology : 24% (previous fiscal year)	Denso : 10%	Sharp : 13% (2020/3)
Main customer (2)	Mitsubishi Electric Group : 14%	HP Japan: 10% (previous fiscal year)	JCET Korea : 13% (previous fiscal year)	Panasonic : 10%	
Overseas revenue composition	19%	57%	32%	39%	65%
Established	1947	1953	1947	1953	1951
Capital ties	Mitsubishi Electric 35.6%	Mitsubishi Electric 8.0%	Independent	Independent	Independent. Special distributorship contract with Renesas dissolved in FY03/21.
Revenue by product	Analog and power semiconductors, microcontrollers, and SoCs are the mainstay products.	Logic 32%, analog and power semiconductors 6%	Electronic components 21%, application specific integrated circuits (ASICs) 20%, analog ICs 19%	N/A	N/A
Revenue by application	On-board, industrial equipment and consumer use are the mainstay applications.	Digital home appliances 25%, industrial and others 14%, PCs and peripherals 12%	Communication equipment 40%, consumer appliances 10%, automotive 8%	On-board 34%, mobile 8%, industrial and machine equipment 8%	N/A

Source: Company materials

* Ryoyo Electro Corporation figures are for FY01/22

** Electronics business: Refers to Ryoyo Electro Corporation's "Semiconductors and Devices," Marubun's "Devices Business," Hakuto's "Electronic Components Business," and Sanshin Electronics' "Devices Business."

Independent electronics trading companies that have little direct competition with Ryoden, but whose main business is semiconductor-related products, include Ryoyo Electro, Marubun, Hakuto, and Sanshin Electronics (Mitsubishi Electric had an 8.0% stake in Ryoyo Electro [as of end-FY03/22]).

Compared to Ryoden, independent trading firms are characterized by a higher percentage of overseas revenue (19% for the company and an average of 48% for the abovementioned four major independent companies in FY03/22). They also have a longer cash conversion cycle (CCC) than the company (68 days for Ryoden versus an average of 121 days for the four major independent trading companies in FY03/22). Considering that there is no significant difference in OPM between Ryoden and the independent trading companies (3.1% for Ryoden and an average of 3.4% for the four major independent companies in FY03/22), it seems that the independent trading firms are taking relatively high risks in terms of cash flow.

Competitors who procure their mainstay products from the same manufacturers

Tachibana Electec, Kanaden, and Ryosan are among the company's competitors who procure their mainstay products from the same manufacturers. The independent Ryosan is the main distributor for Renesas Electronics (Ryosan is not a Mitsubishi Electric affiliate). Ryoden and the two other companies are Mitsubishi Electric-affiliated electronics trading companies. The Electronics segment accounts for a high percentage of Ryosan's revenue, and the company operates its business with relatively large inventories, including for its overseas operations.

Competitors who procure their mainstay products from the same manufacturers

	Ryoden	Tachibana Eletech	Kanaden	Ryosan
Revenue (JPYmn)	229,126	193,431	100,834	272,647
Gross profit margin	11.4%	13.4%	14.5%	9.1%
SG&A ratio	8.3%	9.9%	11.7%	5.9%
Operating profit (JPYmn)	7,062	6,710	2,846	8,857
Operating profit margin	3.1%	3.5%	2.8%	3.2%
Total assets (JPYmn)	140,970	135,172	78,548	190,548
Equity ratio	53%	57%	58%	50%
Number of employees	1,214	1,389	876	955
Revenue per employee (JPYmn)	189	139	115	285
Operating profit per employee (JPYmn)	5.8	4.8	3.2	9.3
ROA (RP-based)	5.5%	5.8%	3.9%	4.8%
ROE	6.9%	6.7%	4.3%	5.8%
Net income/revenue	2.2%	2.7%	1.9%	2.0%
Revenue/total assets	1.6	1.5	1.5	1.4
Total assets/equity	1.9	1.8	1.7	2.0
Days in accounts receivable	113	112	128	110
Days in inventory	47	45	30	65
Days in accounts payable	91	72	94	51
Cash conversion cycle (CCC)	68	85	64	124
Electronics business revenue composition	67%	37%	27%	88%
FA business revenue composition	19%	52%	37%	-
Cooling & Heating and Building Systems business revenue composition	11%	8%	13%	-
Main supplier (1)	Mitsubishi Electric Group : 30%	Mitsubishi Electric Group : 62%	Mitsubishi Electric Group : 70%	-
Main supplier (2)	Renesas Group : 21%	Renesas Group : 19%	-	-
Main customer (1)	Panasonic : 15%	-	-	-
Main customer (2)	Mitsubishi Electric Group : 14%	-	-	-
Overseas revenue composition	19%	16%	11%	48%
Number of overseas countries expanded	9	5	4	7
Number of overseas bases	48	14	9	15
Capital ties	Mitsubishi Electric 35.6%	Mitsubishi Electric 7.7%	Mitsubishi Electric 27.1%	Independent
Established	1947	1948	1912	1953

Source: Company data

* Electronics business: Refers to Tachibana Eletech's "Semiconductors and Electronic Devices Business," Kanaden's "Information & Communications Equipment," and Ryosan's "Device Business."

** FA business: Refers to the "Factory Automation Systems Business" of Tachibana Eletech and Kanaden.

*** Cooling & Heating and Building Systems: Refers to Tachibana Eletech's "Building Services Systems Business" and Kanaden's "Building Facilities."

Comparison of competitors' electronics businesses

Comparison of competitors' electronics businesses (FY03/22)

	Ryoden	Tachibana Eletech	Kanaden	Ryosan
Revenue (JPYmn)	154,390	71,599	27,151	240,831
Operating profit (JPYmn)	4,859	2,510	1,169	7,582
Operating profit margin	3.1%	3.5%	4.3%	3.1%
Assets (JPYmn)	87,827	36,338	13,638	190,548
Operating profit/assets	1.6%	1.8%	1.9%	1.2%
Number of employees	514	336	315	771
Revenue/employee	300	213	86	312
Operating profit/employee	9.5	7.5	3.7	9.8

Source: Company data

* Ryosan's assets indicate companywide figures.

** Figures are for Tachibana Eletech's "Semiconductors and Electronic Devices Business," Kanaden's "Information & Communications Equipment," and Ryosan's "Device Business."

A comparison of peers in the electronics business includes Tachibana Eletech, Kanaden, and Ryosan. Each company's OPM hovered around 3–4% in FY03/22. Over the past five years (FY03/18–FY03/22), each company has experienced periods when OPMs fell to the 1–2% range, but these came at different times. Shared Research understands that this is due to the proneness of semiconductor products to changes in sales volume. Ryoden's OPM is on an uptrend.

Ryoden: Electronics segment

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	158,635	157,440	146,136	126,243	154,390	148,569
YoY	8.1%	-0.8%	-7.2%	-13.6%	22.3%	1.8%
Operating profit	2,492	2,464	2,194	1,616	4,859	2,725
YoY	163.1%	-1.1%	-11.0%	-26.3%	200.7%	65.1%
Operating profit margin	1.6%	1.6%	1.5%	1.3%	3.1%	1.8%
Assets	78,729	74,137	69,557	68,622	87,827	75,774
Number of employees	588	571	545	551	514	554
Operating profit/assets	0.9%	0.8%	0.8%	0.6%	1.6%	0.9%
Revenue/employee	270	276	268	229	300	269
Operating profit/employee	4.2	4.3	4.0	2.9	9.5	5.0

Source: Shared Research based on company data

Tachibana Eletech: Semiconductors and Electronic Devices Business

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	54,773	54,077	47,975	54,347	71,599	56,554
YoY	15.0%	-1.3%	-11.3%	13.3%	31.7%	9.5%
Operating profit	1,584	1,600	1,282	868	2,510	1,569
YoY	21.9%	1.0%	-19.9%	-32.3%	189.2%	32.0%
Operating profit margin	2.9%	3.0%	2.7%	1.6%	3.5%	2.7%
Assets	21,095	20,218	17,969	23,621	36,338	23,848
Number of employees	259	255	270	352	336	294
Operating profit/assets	2.1%	1.9%	1.7%	1.0%	2.1%	1.8%
Revenue/employee	211	212	178	154	213	194
Operating profit/employee	6.1	6.3	4.7	2.5	7.5	5.4

Source: Shared Research based on company data

Kanaden: Information & Communications Equipment

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	28,798	27,902	24,673	26,236	27,151	26,952
YoY	4.3%	-3.1%	-11.6%	6.3%	3.5%	-0.1%
Operating profit	1,222	1,004	456	1,067	1,169	984
YoY	8.0%	-17.8%	-54.6%	134.0%	9.6%	15.8%
Operating profit margin	4.2%	3.6%	1.8%	4.1%	4.3%	3.6%
Assets	13,315	12,663	12,973	14,444	13,638	13,407
Number of employees	269	297	304	316	315	300
Operating profit/assets	2.4%	1.9%	0.9%	1.9%	2.1%	1.9%
Revenue/employee	107	94	81	83	86	90
Operating profit/employee	4.5	3.4	1.5	3.4	3.7	3.3

Source: Shared Research based on company data

Ryosan: Device Business

(JPYmn)	FY03/21	FY03/22	Average
Revenue	191,889	240,831	216,360
YoY	-	25.5%	
Operating profit	4,058	7,582	5,820
YoY	-	86.8%	
Operating profit margin	2.1%	3.1%	2.6%
Total assets	148,087	190,548	169,318
Number of employees	623	771	697
Operating profit/assets	1.4%	1.1%	1.2%
Revenue/employee	308	312	310
Operating profit/employee	6.5	9.8	8.2

Source: Shared Research based on company data

* Assets indicate companywide assets.

** Results from 2020 and earlier are based on former segmentation and are unavailable for comparison

Comparison of factory automation systems businesses
Comparison of competitors' factory automation systems businesses (FY03/22)

	Ryoden	Tachibana Eletech	Kanaden
Revenue (JPYmn)	42,985	101,381	36,843
Operating profit (JPYmn)	1,410	4,113	1,458
Operating profit margin	3.3%	4.1%	4.0%
Assets (JPYmn)	23,226	52,608	17,121
Operating profit/assets	1.7%	4.1%	2.3%
Number of employees	305	804	272
Revenue/employee	141	126	135
Operating profit/employee	4.6	5.1	5.4

Source: Shared Research based on company materials

* Refers to the "Factory Automation Systems Business" of Tachibana Eletech and Kanaden.

Tachibana Eletech and Kanaden are among the company's competitors in the factory automation systems business. Ryoden has a lower OPM and operating profit per employee than these two competitors. Shared Research understands that this is because Tachibana Eletech has the largest share of Mitsubishi Electric products in the factory automation systems domain.

Ryoden: FA Systems segment

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	45,843	46,594	41,460	35,713	42,985	42,519
YoY	15.7%	1.6%	-11.0%	-13.9%	20.4%	2.6%
Operating profit	1,926	2,000	1,312	572	1,410	1,444
YoY	58.1%	3.8%	-34.4%	-56.4%	146.5%	23.5%
Operating profit margin	4.2%	4.3%	3.2%	1.6%	3.3%	3.3%
Assets	24,763	22,965	18,932	18,334	23,226	21,644
Number of employees	323	311	339	335	305	323
Operating profit/assets	2.2%	2.1%	1.6%	0.8%	1.7%	1.7%
Revenue/employee	142	150	122	107	141	132
Operating profit/employee	6.0	6.4	3.9	1.7	4.6	4.5

Source: Shared Research based on company materials

Tachibana Eletech: Factory Automation Systems Business

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	104,157	107,423	99,946	88,071	101,381	100,196
YoY	11.1%	3.1%	-7.0%	-11.9%	15.1%	2.1%
Operating profit	4,710	4,834	4,207	2,919	4,113	4,157
YoY	31.0%	2.6%	-13.0%	-30.6%	40.9%	6.2%
Operating profit margin	4.5%	4.5%	4.2%	3.3%	4.1%	4.1%
Assets	53,202	54,348	47,945	44,318	52,608	50,484
Number of employees	780	799	806	822	804	802
Operating profit/assets	2.4%	2.2%	2.1%	1.6%	2.1%	2.1%
Revenue/employee	134	134	124	107	126	125
Operating profit/employee	6.0	6.1	5.2	3.6	5.1	5.2

Source: Shared Research based on company materials

Kanaden: Factory Automation Systems Business

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	45,820	48,841	45,039	35,508	36,843	42,410
YoY	4.4%	6.6%	-7.8%	-21.2%	3.8%	-2.8%
Operating profit	2,492	2,791	2,261	1,064	1,458	2,013
YoY	12.1%	12.0%	-19.0%	-52.9%	37.0%	-2.2%
Operating profit margin	5.4%	5.7%	5.0%	3.0%	4.0%	4.6%
Assets	19,144	21,431	16,687	14,851	17,121	17,847
Number of employees	260	262	260	281	272	267
Operating profit/assets	3.3%	3.4%	3.0%	1.7%	2.3%	2.7%
Revenue/employee	176	186	173	126	135	160
Operating profit/employee	9.6	10.7	8.7	3.8	5.4	7.6

Source: Shared Research based on company materials

Comparison of competitors' cooling & heating and building systems businesses

Comparison of competitors' cooling & heating and building systems businesses (FY03/22)

	Ryoden	Tachibana Eletech	Kanaden
Revenue (JPYmn)	24,750	15,352	13,521
Operating profit (JPYmn)	1,059	159	84
Operating profit margin	4.3%	1.0%	0.6%
Assets (JPYmn)	15,175	10,781	6,880
Operating profit/assets	1.7%	0.4%	0.6%
Number of employees	242	133	87
Revenue/employee	102	115	155
Operating profit/employee	4.4	1.2	1.0

Source: Shared Research based on company materials

* Figures for Tachibana Eletech's "Building Services Systems Business" and Kanaden's "Building Facilities"

The company's competitors in the cooling & heating and building systems business include Tachibana Eletech and Kanaden. Ryoden has a higher OPM than these two competitors because it is the top trading company handling Mitsubishi Electric products in the cooling & heating and building systems domain. The company also has a well-established customer base. For example, it is responsible for the distribution of almost all products to major subcontracting companies, its main customers in the HVAC field.

Ryoden: Cooling & Heating and Building Systems segment

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	25,696	27,414	31,500	27,278	24,750	27,328
YoY	2.0%	6.7%	14.9%	-13.4%	-9.3%	0.2%
Operating profit	528	1,139	1,580	1,197	1,059	1,101
YoY	44.3%	115.7%	38.7%	-24.2%	-11.5%	32.6%
Operating profit margin	2.1%	4.2%	5.0%	4.4%	4.3%	4.0%
Assets	14,514	14,840	15,459	15,574	15,175	15,112
Number of employees	239	208	220	242	242	230
Operating profit/assets	0.9%	1.9%	2.6%	1.9%	1.7%	1.8%
Revenue/employee	108	132	143	113	102	119
Operating profit/employee	2.2	5.5	7.2	4.9	4.4	4.8

Source: Shared Research based on company data

Tachibana Eletech: Building Services Systems Business

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	15,156	16,811	17,907	15,381	15,352	16,121
YoY	7.2%	10.9%	6.5%	-14.1%	-0.2%	2.1%
Operating profit	197	214	514	247	159	266
YoY	-39.6%	8.6%	140.2%	-51.9%	-35.6%	4.3%
Operating profit margin	1.3%	1.3%	2.9%	1.6%	1.0%	1.6%
Assets	8,130	10,242	9,454	8,594	10,781	9,440
Number of employees	120	129	134	131	133	129
Operating profit/assets	0.6%	0.6%	1.3%	0.7%	0.4%	0.7%
Revenue/employee	126	130	134	117	115	125
Operating profit/employee	1.6	1.7	3.8	1.9	1.2	2.0

Source: Shared Research based on company data

Kanaden: Building Facilities

(JPYmn)	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	Average
Revenue	17,476	16,248	19,726	13,796	13,521	16,153
YoY	-11.8%	-7.0%	21.4%	-30.1%	-2.0%	-5.9%
Operating profit	467	246	353	137	84	257
YoY	10.7%	-47.3%	43.5%	-61.2%	-38.7%	-18.6%
Operating profit margin	2.7%	1.5%	1.8%	1.0%	0.6%	1.5%
Assets	7,395	7,002	8,900	7,058	6,880	7,447
Number of employees	81	82	83	88	87	84
Operating profit/assets	1.6%	0.9%	1.1%	0.4%	0.3%	0.9%
Revenue/employee	216	198	238	157	155	193
Operating profit/employee	5.8	3.0	4.3	1.6	1.0	3.1

Source: Shared Research based on company materials

Suppliers

In FY03/22, the Mitsubishi Electric Group accounted for about 30% of the company's total procurement value, while the Renesas Electronics Group accounted for roughly 21%. Micron Memory Japan is a major supplier of memory products to the company.

Overview of Mitsubishi Electric Corporation

Mitsubishi Electric Corporation is a major Japanese general electronics manufacturer and the core company of the Mitsubishi Electric Group. The company was established in 1921 in a spin-off of Mitsubishi Shipbuilding & Electric Works, the electrical division of Mitsubishi Heavy Industries, Ltd. (TSE Prime: 7011).

In FY03/22, Mitsubishi Electric posted revenue of JPY4.5tn (+6.8% YoY), operating profit of JPY252.1bn (+9.5% YoY), and net income attributable to owners of the parent of JPY203.5bn (+5.4% YoY). Its segments comprise Industrial Automation Systems (32.3% of revenue and 34.2% of operating profit in FY03/22), Energy and Electric Systems (27.4%; 21.9%), Home Appliances (25.3%; 25.0%), Information and Communication Systems (7.0%; 5.2%), Electronic Devices (4.3%; 5.9%), and Others (3.6%; 7.8%). Overseas revenue accounted for 47.9% of total revenue.

Over the past 10 years (FY03/13–FY03/22), revenue grew by 23.0% and operating profit by 11.8%.

Overview of Renesas Electronics

Renesas Electronics is a semiconductor manufacturer with strengths in on-board SoCs and microcontrollers. In 2010, Renesas Electronics was established through the merger of Renesas Technology, which had been spun off from Mitsubishi Electric Corporation and Hitachi, Ltd. (TSE Prime: 6501), and NEC Electronics, which had been spun off from NEC Corporation (TSE Prime: 6701). Renesas Technology was formed in 2003 through the merger of the SoC divisions of Mitsubishi Electric Corporation and Hitachi, Ltd.

In FY12/21, Renesas posted revenue of JPY994.4bn (+38.9% YoY), operating profit of JPY183.6bn (+181.8% YoY), and net income attributable to owners of the parent of JPY127.3bn (+178.9% YoY). Its segments comprise Industrial, Infrastructure, and IoT (51.8% of revenue and 57.3% of operating profit in FY12/21), Automotive (46.5%; 42.0%), and Others (1.7%; 0.7%). Overseas revenue accounted for 68.4% of total revenue.

Overview of Micron Memory Japan

Micron Memory Japan is a semiconductor manufacturer engaged in the development, design, and production of advanced memory products, primarily DRAM and NAND flash memory. It is a subsidiary of Micron Technology, Inc. The company was formerly known as Elpida Memory, Inc. It was formed in 1999 through the merger of the DRAM business divisions of NEC and Hitachi. In 2002, Mitsubishi Electric transferred its semiconductor DRAM division to Elpida Memory. In 2012, Micron Technology acquired Elpida Memory, whose performance was deteriorating. Elpida Memory then became a wholly owned subsidiary of Micron Memory Japan.

Strengths and weaknesses

Strengths

The company is positioned to benefit from a survivor's advantage because its main suppliers, the Mitsubishi Electric Group and Renesas Electronics Group, have reduced their numbers of distributors, and the products handled by the company face little competition from those of other trading companies.

In FY03/22, Ryoden's main suppliers were the Mitsubishi Electric Group and Renesas Electronics Group, which accounted for about 30% and 21% of its procurement value, respectively. The customers for these products are segregated to some extent, and there is little competition among trading companies for their business.

Renesas Electronics reduced the number of its distributors around the time of its founding in 2010 from 30 to 16. In 2019, Renesas began considering reducing the number of specialized trading companies with which it concludes distributorship agreements from 16 to six. It subsequently carried out this plan in FY03/22, reducing its distributors to around six companies including Ryoden, Ryosan, and Tachibana Eletech.

Ryoden was launched in 1947 as a sales agent of Mitsubishi Electric, selling the company's sewing machines and other products, and has continued to handle many Mitsubishi Electric products to the present day. Moreover, Mitsubishi Electric holds 35.63% of the company's shares (as of end-FY03/22). Renesas Electronics has a long-standing relationship with Panasonic Holdings, which is one of its main customers, and has built this relationship over the course of its business history. Ryoden is positioned to enjoy advantages from the strong relationship of these major manufacturers as a trading firm.

Semiconductors for the automotive market account for a high percentage of the company's semiconductor products. This means that the company stands to benefit from increased demand for on-board semiconductors as the electrification of automobiles progresses.

In the Electronics segment, which mainly comprises semiconductor products (67.4% of revenue and 65.6% of operating profit in FY03/22), semiconductors for the automotive industry account for more than one-third of revenue. Considering semiconductors for the automotive industry account for 10% of the global semiconductor market (2019; source: Omdia), Ryoden handles a relatively high proportion of automotive semiconductors versus other semiconductors. This is largely because the company is a major distributor for Renesas Electronics and Mitsubishi Electric.

Renesas Electronics has the third largest share of the global automotive semiconductor component market, with strength in microcontrollers and SoCs. One of Ryoden's main products is the R-Car M2 Renesas Electronics SoC for integrated cockpit systems*, a market that is expected to grow going forward. Over the past 10 years (FY03/13–FY03/22), the revenue composition ratio for Panasonic Holdings, one of the main customers for automotive products, has remained stable at 10.6–15.0% of total revenue.

Mitsubishi Electric is Japan's top manufacturer in the power semiconductor field. Mitsubishi Electric has designated "electrification and ADAS" as a priority growth business in its automotive equipment business, and has set a revenue target for the business of JPY250.0bn for FY03/26 (JPY100.0bn in FY03/21). Shared Research understands that Ryoden plans to focus on sales of Mitsubishi Electric's on-board automotive products, centered on its mainstay SiC power modules.

While the overall global semiconductor market is expected to grow at 7% per year from 2020 to 2030, the market for automotive semiconductors is expected to grow at a relatively high rate of 9–10% per year (according to Omdia and Denso) due to progress in the electrification of automobiles. GPMs for these automotive semiconductor components are in the high single digits, lower than those of factory automation components and consumer electronics products, but the structure of the market is such that there is little competition for customers. The company will also be able to benefit from increased demand for on-board semiconductor components.

* Integrated cockpit systems realize the integrated management and display of information conventionally displayed on meter displays (vehicle speed, engine and motor RPM, remaining gasoline and battery levels, gear shift, various warning lights), center information displays (CIDs), and head-up displays (HUDs), as well as information from advanced driver assistance systems (ADASs) and driver monitoring systems (DMSs).

High market share, a quality customer base composed of major subcontractors, and high profitability in cooling/heating and building systems products as a result of its status as Mitsubishi Electric's top dealer in this area.

Mitsubishi Electric-affiliated electronics trading companies include Tachibana Eletech, Kanaden, and Takebishi. In FY03/22, the OPM of Ryoden's Cooling & Heating and Building Systems segment was 4.3%, which is relatively high compared to other Mitsubishi Electric-affiliated electronics trading companies (the average for Tachibana Eletech and Kanaden was 0.5%; Takebishi is excluded because it does not disclose OPMs). The segment's average operating profit over the past five years was also relatively high at JPY1.1bn (compared to an average of JPY262mn for Tachibana Eletech and Kanaden).

Ryoden is Mitsubishi Electric's top dealer in the cooling/heating and building systems domain, and handles distribution for almost all Mitsubishi Electric products categorized under this domain to major subcontracting companies, which form the main customer base for HVAC products. Sales to these subcontractors is a large-lot business with high turnover. Further, compared to the Electronics segment, the company handles more standard products and the end products have longer life spans, so inventory risk is lower.

Weaknesses

The company's FA Systems segment is less profitable than the factory automation systems businesses of other Mitsubishi Electric electronics trading companies—the two with the highest shares in this area have higher OPMs. Ryoden's FA Systems segment also accounts for a lower percentage of its revenue compared to these competitors.

In FY03/22, the OPM for the FA Systems segment was 3.3%, lower than the 4.0% average for the factory automation businesses of Tachibana Eletech and Kanaden, two Mitsubishi Electric-affiliated electronics trading company peers. The segment's average operating profit over the past five years was also relatively low at JPY1.4bn versus an average of JPY3.1bn for Tachibana Eletech and Kanaden.

Among Mitsubishi Electric distributors, Tachibana Eletech has the largest share of transaction volume in the factory automation systems domain. Although Ryoden has bases across Japan and operates its business mainly for machinery manufacturers, it has historically lagged Tachibana Eletech in terms of transaction share. Its influence in the industry remains unchanged through FY03/22.

The factory automation business has less inventory risk than the electronics business because it is mostly supplied by manufacturers with shorter delivery times than required by customers. However, the company's factory automation business accounts for a relatively low 19% of total revenue in FY03/22 (versus an average of 44% for Tachibana Eletech and Kanaden). Products handled and sales regions are segregated by distributor, making it difficult for the company to significantly increase the weight of the factory automation business in its overall revenue.

Compared to independent electronics trading companies, Ryoden operates primarily in Japan, where growth in demand is unlikely to continue.

Mitsubishi Electric Corporation, the company's main supplier (accounting for approximately 30% of procurement value in FY03/22), has shown a flat trend in Japan-sourced revenue over the past 10 years (FY03/13–FY03/22). In fact, domestic revenue fell approximately 9% from FY03/13 to FY03/22. In other words, Shared Research understands that domestic customer demand for the products Ryoden handles has not increased in the past decade.

In FY03/22, the company's overseas revenue accounted for 19.2% of total revenue, lower than the 49.2% average of independent electronics trading companies Ryosan, Hakuto, and Sanshin Electronics. To expand overseas operations, the

company needs to acquire commercial rights for products from manufacturers. This is not an easy task because large overseas electronics trading companies already hold these commercial rights and operate businesses in these areas.

Currently, the company's business structure is such that it relies on the Japanese market for most of its earnings, and it seems unlikely there will be a significant increase in demand for its existing domestic factory automation systems and cooling/heating and building systems businesses. Although the company is cultivating overseas demand for these businesses and developing new businesses in Japan (indoor agriculture and medical information systems), these have not led to a significant increase in companywide operating profit.

The company's dependence on a handful of semiconductor manufacturers for its commercial rights and the limited number of customers to whom it sells its products make it difficult to provide solutions to existing and new customers on a product-by-product basis.

Logic and memory account for roughly 60% of the global semiconductor market (2019; source: Omdia). However, logic and memory products only account for about one-third of the company's revenue. When it comes to logic products, this low percentage reflects the small market share of Japanese semiconductor manufacturers in the logic industry. For memory products, the low percentage reflects the fact that the company mainly handles products for Micron Memory Japan (formerly Elpida Memory) and only handles a small volume from major Korean manufacturers.

Electronics trading companies need to conclude contracts to acquire commercial rights to procure products from semiconductor manufacturers. Without commercial rights, they are often unable to do business. Compared to Japan's major electronics trading companies, Ryoden has a limited number of these important contracts; it only has contracts with five companies (as of FY03/22) compared to eight for Macnica Holdings and 39 for Kaga Electronics, two major competitors in Japan.

The company's basic management policy is to focus on increasing operating profit rather than pursuing higher revenue. In its mainstay Electronics segment, it can only handle semiconductor products for a limited number of applications. This makes it difficult to offer solutions to existing and new customers on a product-by-product basis.

Historical performance and financial statements

1H FY03/23 results

Summary

- ▷ Revenue: JPY127.0bn (+18.4% YoY; 51.0% progress versus full-year forecast)
- ▷ Operating profit: JPY4.8bn (+71.9% YoY; 60.3%)
- ▷ Recurring profit: JPY4.7bn (+66.3% YoY; 60.4%)
- ▷ Net income attributable to owners of the parent: JPY3.2bn (+67.7% YoY; 59.8%)

Cumulative results for 1H FY03/23 are as follows: revenue of JPY127.0bn (+18.4% YoY; 51.0% progress versus full-year forecast), operating profit of JPY4.8bn (+71.9% YoY; 60.3% progress), recurring profit of JPY4.7bn (+66.3% YoY; 60.4% progress), net income attributable to owners of the parent of JPY3.2bn (+67.7% YoY; 59.8% progress). Revenue, operating profit, recurring profit, and net income attributable to owners of the parent in 1H were 8.6%, 58.8%, 52.1%, and 47.4% higher, respectively than the company's initial forecasts. The Electronics segment performed well, driving the increase in both revenue and profit. The weaker yen pushed up operating profit by approximately JPY740mn.

Automobile production was affected by the shortage of semiconductors and lockdowns in China, but production varied by manufacturer. In electronic components and semiconductors, demand for products for smartphones, PCs, and other digital devices began to show signs of slowing, but the demand for components for automobiles and industrial equipment remained high relative to the supply. In industrial and machine tools, demand for automation and labor-saving equipment remained robust.

Results by segment

Electronics: Revenue of JPY89.5bn (+24.5% YoY), operating profit of JPY4.0bn (+121.0% YoY)

Sales of system-on-chips (SoCs) and memory for infotainment systems in the automotive market remained strong, and sales of analog semiconductors and passive components for semiconductor manufacturing equipment and machine tools in the industrial equipment market were also strong. Overseas, sales of analog and power semiconductors for industrial equipment, mainly in China, and sales of on-board memory (for infotainment systems) in North America were robust.

FA Systems: Revenue of JPY22.4bn (+9.1% YoY), operating profit of JPY691mn (+4.7% YoY)

Despite continued supply chain disruptions, including semiconductor and material shortages and soaring raw material prices, demand for AC servo and CNC systems for semiconductor manufacturing equipment, machine tools, and other equipment manufacturing applications remained strong, as did capital investment projects in the manufacturing industry, particularly in the automotive and electrical and electronics fields.

Cooling & Heating and Building Systems: Revenue of JPY12.4bn (-3.1% YoY), operating profit of JPY362mn (-40.4% YoY)

In heating and cooling, sales of room air conditioners and commercial air conditioners were supported by the extremely hot summer and business recovery in the service industry, but the segment performance remained weak due to sluggish building air conditioning equipment projects and prolonged delivery times for low-temperature equipment (commercial freezers and refrigerators). In building systems, the company completed construction projects for which orders had already been received, such as elevators, smoothly. However, the construction market was affected by soaring raw material prices and lengthening delivery times, and the company struggled to win new orders for elevators and other building equipment, resulting in weak performance.

X-Tech: Revenue of JPY2.8bn (+29.7% YoY), operating loss of JPY97mn (versus operating loss of JPY146mn in 1H FY03/22)

In healthcare, the Total Pack IT service, which provides in-hospital IT systems in a single package, performed well. The FlaRevo video management system, an original solution developed by the company, and other IT-related equipment also sold well in ICT.

In smart agriculture, the company continued to work on the mass production of spinach at Block FARM, a next-generation indoor farm completed in May 2022, which will be the world's first closed artificially lit indoor farm for spinach production.

Full-year FY03/22 consolidated results

- ▷ Revenue: JPY229.1bn (+16.4% YoY)
- ▷ Operating profit: JPY7.1bn (+106.7% YoY)
- ▷ Recurring profit: JPY7.3bn (+99.4% YoY)
- ▷ Net income attributable to owners of the parent: JPY5.0bn (+113.6% YoY)

For FY03/22, the company reported consolidated revenue of JPY229.1bn (+16.4% YoY), operating profit of JPY7.1bn (+106.7% YoY), recurring profit of JPY7.3bn (+99.4% YoY), and net income attributable to owners of the parent of JPY5.0bn (+113.6% YoY). The Electronics and FA Systems segments drove revenue and profit growth.

In the industries in which the group does business, demand for electronic components, including parts and materials, remained tight as demand for on-board and industrial equipment remained high. In the machine tool industry, demand for EVs and semiconductor-related equipment remained high.

Results by segment

Electronics: Revenue of JPY154.4bn (+22.3% YoY), operating profit of JPY4.9bn (+200.7% YoY)

In Japan, sales of products for semiconductor manufacturing equipment and machine tools were robust, benefitting from rising demand for semiconductors. Sales of products for infotainment systems such as car navigation systems were also strong. At overseas subsidiaries, sales of products for industrial equipment in China and products for automotive applications in Europe and North America remained strong.

FA Systems: Revenue of JPY43.0bn (+20.4% YoY), operating profit of JPY1.4bn (+146.5% YoY)

Despite supply shortages of some of the products handled, there was a recovery in capital investment projects in the domestic manufacturing industry, and sales of products for semiconductor manufacturing equipment and machine tools remained strong.

Cooling & Heating and Building Systems: Revenue of JPY24.8bn (-9.3% YoY), operating profit of JPY1.1bn (-11.5% YoY)

Although demand for ventilation/heaters and refrigerators/freezers was strong, performance suffered as a result of the postponement or cancellation of new projects owing to the extended delivery periods of mainstay products and shortages of parts and materials.

X-Tech: Revenue of JPY7.0bn (-8.0% YoY), operating profit of JPY74mn (-74.7% YoY)

In the healthcare field, products related to infectious disease prevention and services related to IT systems in hospitals showed strength. The smart agriculture business was sluggish as the company pivoted to a business model based on production and consequently focused on the construction of its own indoor farm. In network systems, new orders for monitoring and other plant management systems remained sluggish.

Income statement

Income statement (JPYmm)	FY03/13 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/19 Cons.	FY03/20 Cons.	FY03/21 Cons.	FY03/22 Cons.
Revenue	203,730	237,877	221,990	219,225	236,494	240,312	230,087	196,841	229,126
YoY	0.5%	5.8%	-6.7%	-1.2%	7.9%	1.6%	-4.3%	-14.4%	16.4%
Cost of revenue	183,142	213,811	198,869	197,164	212,061	215,173	204,658	174,998	202,979
Gross profit	20,587	24,065	23,121	22,060	24,432	25,139	25,428	21,843	26,147
YoY	5.8%	5.4%	-3.9%	-4.6%	10.8%	2.9%	1.1%	-14.1%	19.7%
Gross profit margin	10.1%	10.1%	10.4%	10.1%	10.3%	10.5%	11.1%	11.1%	11.4%
SG&A expenses	16,172	19,072	19,448	19,329	19,354	19,515	19,869	18,427	19,084
SG&A ratio	7.9%	8.0%	8.8%	8.8%	8.2%	8.1%	8.6%	9.4%	8.3%
Operating profit	4,414	4,992	3,673	2,730	5,078	5,624	5,559	3,415	7,062
YoY	10.3%	-5.4%	-26.4%	-25.7%	86.0%	10.8%	-1.2%	-38.6%	106.8%
Operating profit margin	2.2%	2.1%	1.7%	1.2%	2.1%	2.3%	2.4%	1.7%	3.1%
Non-operating income	465	787	405	460	436	455	456	379	434
Dividend received	77	136	138	118	145	119	127	138	181
Equity in earnings of affiliates	80	25	49	32	21	17	43	41	80
Non-operating expenses	217	1,274	781	749	459	431	256	142	212
Recurring profit	4,662	4,505	3,296	2,442	5,055	5,648	5,758	3,653	7,285
YoY	17.0%	-20.1%	-26.8%	-25.9%	107.0%	11.7%	1.9%	-36.6%	99.4%
Recurring profit margin	2.3%	1.9%	1.5%	1.1%	2.1%	2.4%	2.5%	1.9%	3.2%
Extraordinary gains	-	-	77	83	252	57	234	283	20
Extraordinary losses	101	-	247	84	107	113	381	336	8
Income taxes	1,707	1,614	1,279	1,053	1,611	1,859	1,751	1,256	2,293
Implied tax rate	37.4%	35.8%	41.9%	43.1%	31.0%	33.2%	31.2%	34.9%	31.4%
Net income	2,852	2,891	1,846	1,388	3,588	3,731	3,860	2,343	5,004
YoY	28.7%	-18.6%	-36.1%	-24.8%	158.5%	4.0%	3.5%	-39.3%	113.6%
Net margin	1.4%	1.2%	0.8%	0.6%	1.5%	1.6%	1.7%	1.2%	2.2%

Source: Shared Research based on company data

Note: Figures may differ from company materials due to differences in rounding methods.

Changes over the past 10 years

FY03/13: Revenue and profits increased

The Electronics business has led to an increase in both revenue and profits. Sales of electronic components for automotive and office automation equipment were strong throughout Asia, and the weak yen also contributed to steady growth. Sales of cooling, heating, and building equipment also were up due to the resumption of projects that had been postponed due to natural disasters, as well as replacement demand for energy-saving equipment and increased demand for photovoltaic power generation equipment. Sales of renewable energy-related products were also strong.

FY03/14: Revenue and profits increased

The Electronics segment drove revenue and profit growth. In Japan, domestic demand centered on eco-cars in the automotive market and overseas demand from North America and China, which was affected by the yen's depreciation, recovered. Further, industrial equipment demand for solar power generation and other energy-saving and housing businesses remained strong, partly due to rush demand before the consumption tax hike. Sales of electronic components for automotive and office automation equipment products were strong throughout Asia.

FY03/15: Revenue increased and profits decreased

In Electronics and FA Systems, revenue increased due to strong sales of automotive-related products to Europe, the US, and other overseas markets, as well as of industrial equipment, semiconductor, and LCD manufacturing equipment, and machine tool-related products. Revenue was also boosted by capital investment in the automotive market. On the profit front, in the building systems and information and communications fields, sales of core products such as elevators and IT-related products were sluggish.

FY03/16: Revenue and profits decreased

In Electronics, revenue declined due to sluggish sales of automotive-related products in the domestic market. At overseas subsidiaries, sales of office automation equipment-related products were sluggish in China and the ASEAN region, resulting in a significant decline in revenue. In FA Systems, sales of semiconductor and LCD-related manufacturing equipment were sluggish, and capital investment in automotive and photovoltaic power generation equipment was also sluggish, resulting in lower revenue.

FY03/17: Revenue and profits decreased

In Electronics, overseas subsidiaries reported lower revenue due to sluggish sales in China, the ASEAN region, and Europe, and weak sales of electronic components for office automation equipment in Asia. In FA Systems, revenue declined due to lower production of mainstay machine tool-related products and pick-and-place machines.

FY03/18: Revenue and profits increased

In Electronics, revenue increased in Japan due to increased automobile-related production for Europe and the US, as well as steady performance in the advanced driver assistance system (ADAS) business. Revenue was also up in the industrial equipment business stemming from strong sales of machine tools, pick-and-place machines, semiconductor/LCD-related manufacturing equipment and other FA-related products for the Chinese market, as well as products for “white goods,” mainly air conditioners. In FA Systems, revenue rose sharply due to strong sales of automotive-related equipment, machine tools, semiconductor/LCD-related manufacturing equipment, and products for equipment dealers.

FY03/19: Revenue increased and profits decreased

In Electronics, revenue was strong in Japan due to steady automobile-related production for Europe and the US, as well as steady performance in the advanced driver assistance system (ADAS) business and the air-conditioning market (“white goods” such as air conditioners). Despite efforts to reduce SG&A expenses, operating profit declined because the company was unable to absorb the decrease in gross profit that resulted from a lower GPM.

FY03/20: Revenue and profits decreased

In Electronics, revenue declined due to continued weakness in factory automation products such as machine tools and semiconductor production equipment mainly for the Chinese market, partly affected by trade friction between the US and China. In FA Systems, sales of semiconductor/LCD-related manufacturing equipment and products for pick-and-place machines and machine tools remained sluggish due to the US–China trade friction and the prolonged downturn in smartphones and semiconductors, while there was a slowdown in automotive-related capital investment projects.

FY03/21: Revenue and profits decreased

In Electronics, domestic revenue from automotive-related products began to recover in 2H, as did revenue from industrial equipment products, especially to China. However, the recovery was not enough to offset the slump in 1H, resulting in lower revenue. In FA Systems, revenue declined due to sluggish sales throughout the year of products for the manufacturing industry, especially the automotive industry.

FY03/22: Revenue and profits increased

In Electronics, sales of products for the semiconductor manufacturing equipment and machine tools were brisk, as were sales of products for infotainment systems such as car navigation systems, reflecting rising demand for semiconductors. In FA Systems, sales of semiconductor manufacturing equipment and products for machine tools remained strong as capital investment projects in the domestic manufacturing industry began to pick up, despite supply shortages of some of the products handled.

Balance sheet

Balance sheet (JPY mn)	FY03/13 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/19 Cons.	FY03/20 Cons.	FY03/21 Cons.	FY03/22 Cons.
Assets									
Cash and deposits	22,881	15,419	16,665	19,168	14,128	17,117	20,174	21,129	11,587
Notes and accounts receivable - trade	52,488	61,103	54,853	55,832	58,573	57,688	53,028	48,050	-
Notes and accounts receivable - trade, and contract assets	-	-	-	-	-	-	-	-	51,474
Electronically recorded monetary claims	-	3,349	6,242	9,586	15,243	16,013	16,626	19,823	21,992
Securities	-	453	853	-	247	44	-	-	52
Merchandise and finished goods	15,662	21,670	20,510	18,670	25,336	23,784	20,857	19,285	32,850
Total current assets	94,744	108,840	103,975	107,030	118,237	117,753	113,565	111,332	126,093
Buildings (net)	636	714	1,056	966	895	844	787	732	675
Machinery and equipment	112	712	520	462	407	360	322	286	254
Tools, furniture and fixtures	275	323	381	349	311	287	259	265	236
Total tangible fixed assets	4,128	4,880	5,088	4,883	4,702	4,580	4,122	3,881	3,764
Total intangible assets	409	575	669	658	680	673	623	724	806
Investment securities	6,256	8,432	6,900	8,056	7,296	6,905	6,632	6,988	7,305
Investments and other assets	8,589	10,824	9,648	10,190	10,089	9,722	9,993	9,591	10,306
Total fixed assets	13,127	16,281	15,407	15,732	15,472	14,976	14,738	14,197	14,877
Total assets	107,872	125,121	119,382	122,763	133,710	132,729	128,304	125,529	140,970
Liabilities									
Notes and accounts payable - trade	44,248	43,939	39,088	41,529	45,399	44,031	39,064	33,706	40,117
Electronically recorded obligations	-	8,908	7,897	10,489	12,464	10,842	10,332	12,625	14,776
Short-term borrowings	2,123	2,706	2,083	761	795	1,358	246	407	822
Income taxes payable	968	460	736	263	1,405	1,035	1,127	212	1,633
Total current liabilities	50,543	59,209	53,146	56,039	63,615	61,216	54,745	50,954	62,585
Retirement benefit liability	-	3,280	4,610	4,579	4,718	4,667	4,875	3,609	2,818
Total fixed liabilities	3,207	4,466	5,834	5,748	6,036	5,797	6,001	4,655	3,618
Total liabilities	53,751	63,676	58,981	61,787	69,652	67,013	60,746	55,609	66,204
Net assets									
Capital stock	10,334	10,334	10,334	10,334	10,334	10,334	10,334	10,334	10,334
Capital surplus	7,375	7,380	7,380	7,392	7,399	7,405	7,419	7,437	7,449
Retained earnings	37,275	41,585	42,348	42,705	45,340	47,900	50,544	51,671	55,458
Treasury stock	-815	-857	-864	-855	-850	-846	-832	-813	-800
Total net assets	54,121	61,444	60,401	60,975	64,057	65,716	67,557	69,919	74,766
Working capital	23,902	33,275	34,620	32,070	41,289	42,612	41,115	40,827	51,423
Total interest-bearing debt	2,123	2,706	2,083	761	795	1,358	246	407	822
Net debt	-20,758	-12,713	-14,582	-18,407	-13,333	-15,759	-19,928	-20,722	-10,765

Source: Shared Research based on company data

Note: Figures may differ from company materials due to differences in rounding methods.

Assets

In FY03/22, current assets accounted for 89.4% (JPY126.1bn) of the company's assets (JPY141.0bn). Notes and accounts receivable and electronically recorded monetary claims accounted for 52.1% (JPY73.5bn) of total assets, while inventories (merchandise and finished goods) accounted for 23.3% (JPY32.9bn).

Notes and accounts receivable and electronically recorded monetary claims

Over the past 10 years (FY03/13–FY03/22), notes and accounts receivable and electronically recorded monetary claims have ranged from JPY52.5bn (FY03/13) to JPY73.8bn (FY03/18). Days in accounts receivable have ranged from 90.2 (FY03/14) to 127.5 (FY03/21).

Inventories

Over the past 10 years (FY03/13–FY03/22), inventories have ranged from JPY15.7bn (FY03/13) to JPY32.9bn (FY03/22). The average days in inventory was 38.0 days. The COVID-19 pandemic disrupted the supply chain and caused supply issues throughout the semiconductor and electronic components industry. As a result, the company reported that it was being asked by both suppliers and customers to hold larger inventories than in the past. This has led to an increase in days in inventory to 46.9 days in FY03/22.

Liabilities

Notes and accounts payable

Over the past 10 years (FY03/13–FY03/22), notes and accounts payable have ranged from JPY33.7bn (FY03/21) to JPY45.4bn (FY03/18). The average days in accounts payable was 92.0 days.

Interest-bearing debt

Interest-bearing debt as a percentage of total assets was 0.6% (JPY822mn) in FY03/22. All interest-bearing debt is short-term borrowings. Over the past 10 years, interest-bearing debt has ranged from JPY246mn (FY03/20) to JPY2.7bn (FY03/15).

Net assets

Over the past 10 years (FY03/13–FY03/22), net assets have increased from JPY54.1bn (FY03/13) to JPY74.8bn (FY03/22).

Cash flow statement

Cash flow statement (JPYmn)	FY03/13 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/19 Cons.	FY03/20 Cons.	FY03/21 Cons.	FY03/22 Cons.
Cash flows from operating activities (1)	11,124	-4,168	3,747	4,601	-4,833	4,479	5,938	1,939	-7,623
Pre-tax profit	4,560	4,505	3,126	2,441	5,200	5,591	5,611	3,599	7,297
Depreciation	342	578	520	558	513	492	521	414	409
Interest and dividend income	-110	-206	-221	-171	-193	41	35	-173	-208
Change in trade receivables	9,443	-4,604	2,631	-4,614	-8,463	21	3,971	1,872	-4,804
Change in inventories	2,825	-3,004	942	1,611	-6,601	1,393	2,888	1,433	-13,129
Increase (decrease) in trade payables	-4,913	2,889	-5,409	5,373	5,719	-2,714	-5,442	-2,930	7,928
Cash flows from investing activities (2)	-269	-1,230	-777	474	674	-686	-518	183	-1,326
Purchase of tangible fixed assets	-287	-1,000	0	-219	-109	-157	-185	-98	-132
Proceeds from sale of property, plant and equipment	2	6	166	2	3	0	0	210	0
Purchase of intangible assets	-133	-225	-283	-114	-266	-150	-137	-138	-307
Free cash flow (1+2)	10,855	-5,398	2,970	5,075	-4,159	3,793	5,420	2,122	-8,949
Cash flows from financing activities	-245	-1,087	-1,550	-2,227	-942	-563	-2,281	-1,052	-883
Depreciation and amortization (A)	342	578	520	558	513	492	521	414	409
Capital expenditures (B)	-420	-1,225	-283	-333	-375	-307	-322	-236	-439
Change in working capital (C)	6,193	-5,431	-1,345	2,550	-9,219	-1,323	1,497	288	-10,596
Simple FCF (NI + A + B - C)	2,774	2,244	2,083	1,613	3,726	3,916	4,059	2,521	4,974

Source: Shared Research based on company data

Note: Figures may differ from company materials due to differences in rounding methods.

Cash flows from operating activities

The company's cash flows from operating activities are affected by changes in trade receivables, inventories, and trade payables.

- ▷ In FY03/15, FY03/18, and FY03/22, operating activities used cash due to increases in accounts receivable and inventories.
- ▷ In FY03/13, FY03/16, FY03/19, and FY03/20 operating activities provided cash due to decreases in accounts receivable and inventories.

Cash flows from investing activities

Cash flows from investing activities are mainly affected by the acquisition of tangible fixed assets and shares of subsidiaries.

Cash flows from financing activities

Cash flows from financing activities are affected by dividend payments and changes in short-term borrowings.

Other information

History

Date	Summary
April 1947	Established as a sales agent of Mitsubishi Electric Corporation
April 1963	Listed on the Second Section of the Tokyo Stock Exchange.
Sept. 1971	Home electronics business rights were transferred to a new sales company jointly established with Mitsubishi Electric Corporation, and the home electronics division was completely split off.
Sept. 1991	Listed on the First Section of the Tokyo Stock Exchange
Feb. 2020	Acquired all shares of Sowa Technical Co., Ltd. (Hiroshima, Hiroshima Prefecture) and made it a subsidiary.
March 2022	Acquired additional shares of Farmship, Inc. and made it an equity-method affiliate.
April 2022	Listing moved from the First Section of the Tokyo Stock Exchange to the Prime Market due to the exchange's market restructuring.

Source: Shared Research based on company data

Corporate governance and top management

Corporate governance

Corporate governance

Directors	
Number of directors per Articles of Incorporation	12
Directors' term of office per Articles of Incorporation	1 year
Number of independent outside directors	4 (3)
Other	
Participation in electronic voting platform	Y
Providing convocation notice (summary) in English	Y
Disclosure of director compensations	Individual remuneration not disclosed
Policy on compensation amount and calculation method	Y
Takeover defenses	N

Source: Shared Research based on company data

* As of end-FY03/22

Top management

Katsuyuki Tomizawa, Representative Director and President

April 1983	Joined Mitsubishi Electric Corporation
April 2012	Deputy Director of Nagoya Manufacturing Office
April 2015	Director and Deputy General Manager of Mitsubishi Electric (China)
April 2017	Executive Officer of Mitsubishi Electric, China General Representative, Director and General Manager of Mitsubishi Electric (China)
April 2021	Joined Ryoden Corporation
June 2021	Executive Officer and Vice President
June 2022	Representative Director and President (current)

Source: Shared Research based on company data

Shoji Kitai, Representative Director, Senior Executive Officer, Head of Administrative Division, Head of General Affairs, Human Resources, and Accounting, Acting Supervisory Officer

April 1982	Joined Ryoden Corporation
June 2008	General Manager of Accounting Department
October 2010	Deputy General Manager of Kansai Branch Office and General Manager of General Affairs Department
June 2013	General Manager of Corporate Planning Office
June 2014	Director and General Manager of Corporate Planning Office
April 2017	Managing Director and General Manager of Accounting Department
June 2018	Director, Managing Executive Officer, and General Manager of Accounting Department
April 2021	Director and Managing Executive Officer
June 2021	Representative Director and Managing Executive Officer
June 2022	Representative Director and Senior Managing Executive Officer (current)

Source: Shared Research based on company data

Major shareholders

Top shareholders	Shares held ('000)	Shareholding ratio
Mitsubishi Electric Corporation	7,755	35.6%
The Master Trust Bank of Japan, Ltd.	1,429	6.6%
BBH BOSTON FOR NOMURA JAPAN SMALLER CAPITALIZATION FUND 620065	589	2.7%
Ryoden Corporation employee stock ownership	476	2.2%
Citizen Watch Co., Ltd.	414	1.9%
Tokio Marine & Nichido Fire Insurance Co., Ltd.	326	1.5%
Hikari Tsushin, Inc.	217	1.0%
BNYMSANV RE BNYMIL RE LF MORANT WRIGHT NIPPON YIELD FUND	215	1.0%
Meiji Yasuda Life Insurance Company	203	0.9%
MUFG Bank, Ltd.	180	0.8%
SUM	11,809	54.3%

Source: Shared Research based on company data

* As of end-FY03/22

Dividend policy

The company believes that maintaining and sustaining stable dividends over the long term will lead to sustainable enhancement of shareholder value. It will continue to strive for stable shareholder returns based on maintaining a sound financial position and investing for sustainable profit growth while improving earnings through growth investments.

SDGs

The company has selected seven key SDGs for its business activities based on a comprehensive consideration of the importance of these SDGs to its business, areas of focus of its medium-term management plan, and stakeholder perspectives. It is promoting the integration of the SDGs into each of its business initiatives.

Information disclosure in line with TCFD recommendations

Climate change is one of the management issues that Ryoden focuses on. The company intends to use the TCFD recommendations as a benchmark to verify the appropriateness of its climate change-related measures and to capture growth opportunities and address risks in order to achieve sustainable growth.

Time horizon of risks and opportunities related to climate change

- ▷ Short-term: Rapidly respond to demand for products and services with higher energy efficiency, and reduce the environmental impact of business activities.

- ▷ Medium-term: Strengthen efforts toward a decarbonized society in response to climate change risks, and develop products and services (solutions) with less environmental impact over the entire product lifecycle.
- ▷ Long-term: Aim to develop and expand “products and services with extremely low CO2 emissions and products and services for adapting to climate change” as core businesses for a decarbonized society.

Impact of climate-related risks and opportunities on the organization’s business, strategy, and financial plans

Risks

Transition risks		Countermeasures	Timeframe
Reputational	Decline in reputation due to delays in providing products and services that contribute to decarbonization.	Collaborate with suppliers and partners to implement technology development to transition to low-carbon and decarbonized products and services.	Short-term
Regulatory	Increased administrative costs due to tighter greenhouse gas emission regulations.	Monitor regulatory developments with the Sustainability Committee. Respond rapidly to regulatory changes.	Medium-term
	Decrease in sales volume due to the introduction of a carbon tax. Particularly large impact on semiconductor devices, which consume large amounts of energy during production.	Contribute to mitigating the impact of regulations by providing supplier manufacturers with high-efficiency cooling/heating/building systems and factory automation systems to improve production efficiency.	
Technological	Loss of sales opportunities for low-carbon products and services due to delays in the development of advanced technologies to cope with the rapid transition to a low-carbon society.	Have the Sustainability Committee work with business units to monitor trends in the technology required for a low-carbon society.	Medium-term
Market	Decrease in sales volume of products and services that are difficult to adapt to a low-carbon/decarbonized society due to changing market needs.	Collaborate with supplier manufacturers and partners to develop technologies for transitioning to low-carbon and decarbonized products and services.	Long-term

Physical risks		Countermeasures	Timeframe
Stagnation of production and sales activities and decline in sales due to damage to supply chains (factories and warehouses) caused by natural disasters.		Establish a system to detect signs of natural disasters and take emergency countermeasures.	Medium-term

Source: Shared Research based on company data

Opportunities

Opportunities	Effect on business and strategy	Timeframe
Increased demand for HVAC equipment due to rising temperatures in summer and extreme low temperatures in winter	Increased sales opportunities for various HVAC equipment in Cooling & Heating and Building Systems and lower CO2 emissions achieved through products with improved energy efficiency.	Short-term
Growing need to reduce CO2 emissions from production processes	Business expansion and revenue growth in FA Systems, which contributes to production efficiency and energy efficiency.	Medium-term
Growing need to realize stable agricultural production	Business expansion and revenue growth through the stable production and sale of safe vegetables with high added-value at the company's energy-efficient next-generation indoor farm.	Long-term

Source: Shared Research based on company data

Greenhouse gas emissions targets

The company has set a target of reducing greenhouse gas emissions from all in-house business activities by 100% from FY03/22 levels by FY03/31.

Rationale behind setting targets

Transition risks	
Rationale behind setting targets	Realization of the Group's environmental vision target of "zero greenhouse gas emissions from electricity use by 2030" and the introduction of 100% non-fossil fuel vehicles (electric vehicles [EV] and fuel cell vehicles [FCV]) for company use will enable a 100% reduction in Scope 1 and 2. These targets meet the SBTi's corporate net-zero standard and government targets.
Scope	Company on a non-consolidated basis + domestic consolidated companies (excluding BlockFARM) [Scope 1 and 2 companies]

Source: Shared Research based on company data

Products and services that contribute to emissions reductions

Products and services that contribute to emissions reductions

Transition risks	
FA Systems	Contribute to the improvement of production efficiency and energy efficiency of customers and the associated reduction of greenhouse gas emissions.
Cooling & Heating and Building Systems	Improve energy efficiency and reduce greenhouse gas emissions through total solutions for offices, production sites, and logistics processes using various types of equipment, including HVAC and clean rooms.
Energy-Efficient Next-Generation Indoor Farm	The energy-efficient next-generation indoor farm, using artificial light, a company-developed heat-return environmental control system and a mega solar power system for self-consumption will contribute to the realization of a decarbonized society, guarding against the effects of abnormal weather caused by climate change and realizing stable production of agricultural products.

Source: Shared Research based on company data

Relationship between business activities and the SDGs

Business	Recognized opportunities and risks	Major initiatives
FA systems	<ul style="list-style-type: none"> Optimal energy use Supporting innovative working environments Promoting innovative infrastructure construction Promoting sustainable industrialization Responding to climate change Waste reduction and management 	<ul style="list-style-type: none"> Promote systems engineering business Promote energy management system (EMS) business Promote joint industry-academia research in the field of laser micromachining
Cooling and heating systems	<ul style="list-style-type: none"> Adapting to a sustainable food production system Optimal energy use Promoting innovative infrastructure construction Responding to climate change Waste reduction and management 	<ul style="list-style-type: none"> Promote development of manufacturing customers Expand agricultural business Expand sales of HVAC equipment (PAC, low-temperature equipment, ventilation equipment)
Building systems	<ul style="list-style-type: none"> Optimal energy use Promoting clean energy Promoting innovative infrastructure construction Creating sustainable, safe, and secure communities Responding to climate change Waste reduction and management 	<ul style="list-style-type: none"> Promote zero-energy building (ZEB) projects Promote building energy management system (BEMS) proposals
Network systems	<ul style="list-style-type: none"> Optimal energy use Adapting to innovative working conditions Developing high-quality sustainable infrastructure Promoting innovative infrastructure construction Creating sustainable, safe, and secure communities Responding to climate change Proper management of chemical substances Waste reduction and management 	<ul style="list-style-type: none"> Promote service businesses using sensing devices and communications technology Promote machine vision systems (MVS) equipment to improve productivity at manufacturing sites Sell (install and manage) security devices and information and communications equipment
Smart agriculture	<ul style="list-style-type: none"> Adapting to a sustainable food production system Optimal energy use Promoting innovative infrastructure construction Responding to climate change 	<ul style="list-style-type: none"> Provide stable supply of agricultural products regardless of weather conditions with indoor farms (production business) Make proposals to utilize natural energy through indoor farm environmental control systems
Healthcare	<ul style="list-style-type: none"> Developing high-quality insurance services Promoting a safe and secure working environment Developing high-quality, sustainable infrastructure 	<ul style="list-style-type: none"> Provide emergency and health management applications Transform medical information communication by building and selling private LTE
Electronics	<ul style="list-style-type: none"> Contributing to reductions in traffic accidents Promoting clean energy Promoting innovative infrastructure construction Creating sustainable, safe, and secure communities Responding to climate change Proper management of chemical substances Waste reduction and management 	<ul style="list-style-type: none"> Enter new urban development (Maas market) Establish business in the connected car market ADAS, automated driving solutions Smart home/smart factory Promote sales of energy-saving solutions Sell products (SiC power semiconductor devices) Sell products (optical communications devices)

Source: Shared Research based on company data

Corporate profile

Company Name	Head Office
Ryoden Corporation	3-15-15 Higashi-ikebukuro, Toshima-ku, Tokyo
Phone	Listed On
+81-3-5396-6111	Tokyo Stock Exchange Prime Market
Established	Exchange Listing
April 1947	April 1963
Website	Fiscal Year-End
https://www.ryoden.co.jp/en/	March
IR Web	
https://www.ryoden.co.jp/en/ir/	

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