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# Hakudo

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# Executive summary

## Business overview

Hakudo Co., Ltd. is a trading company specializing in non-ferrous metals (aluminum, copper, and stainless steel). In the decade to FY03/22, revenue ranged from JPY22.1bn (FY03/13) to JPY55.4bn (FY03/22). Operating profit was between JPY1.4bn (FY03/13) and JPY4.3bn (FY03/22). Over this same period, OPM ranged from 4.0% (FY03/20) to 7.7% (FY03/22). Performance fluctuates in line with changing market prices on the main materials the company handles (aluminum, copper, and stainless steel) and volatility in demand from the customers who purchase these materials (such as manufacturers of semiconductor fabrication equipment). As an example of this volatility, performance declined in FY03/20 because of falling semiconductor demand stemming from US–China trade friction, sluggish capex among manufacturers of semiconductor fabrication equipment, and deterioration in non-ferrous metal prices. In FY03/22, the market environment improved quickly, due to a rebound in non-ferrous metal prices and shortage of supply for semiconductor production equipment. Accordingly, performance also rapidly recovered.

In addition to its function as a trading company (buying and selling non-ferrous materials), Hakudo also processes materials into the sizes and shapes customers require. Revenue is based on market prices, with unit prices factoring in additional services (such as processing, delivery, and customer payment terms). In FY03/22, revenue was JPY55.4bn (+41.4% YoY). Aluminum accounted for 65.6% of this figure, copper for 13.5%, stainless steel for 16.6%, specialty steels for 1.7%, and other materials for 3.3%. For a trading company, the margin on the purchase and sale of goods is the basic source of profits. In addition, the company receives compensation for the convenience it offers (processing services and the speed of delivery) and profits from fluctuations in the purchase and selling prices of materials.

Hakudo was founded in 1932. As early as in 1968, the company introduced a computer system to manage information on customer demand, sales, and inventories. Around that time, customers began asking Hakudo to handle inventory control on their behalf, so the company began adjusting sales to provide each customer with just the amount of materials they required. Since the 1970s, the company has enhanced its factory and inventory management functions. To do so, Hakudo has expanded its facilities outside city centers and increased its product lineup. As of end-FY03/22, the company's print and online catalogs listed some 32,700 products for sale. Of this figure, around 5,300 were standard stock items (the company buys materials, which it machines and cuts into customer-required sizes and shapes) and another 27,400 were items stocked by other companies. To meet customers' requests for processing, the company has installed several hundred metalworking machines at its five factories throughout Japan and created a rapid-delivery system.

In addition to phone, fax, and email, the company provides estimates and accepts orders 24/7 via its online site, Hakudo Network Service. The company's customer accounts numbered around 13,000 as of FY03/21, and more than 10,000 of these were for companies registered to use the online service. Hakudo estimates that the majority of major companies handling semiconductor production equipment already have registered for this service. Hakudo handles around 20,000 inquiries and invoice requests each day and around half of these result in orders (excluding special-order items). In Japan, turnaround time (from ordering to processing and shipment) is fast. Products listed in the company catalog can often be delivered same-day or on the following day. Manufacturers of industrial machinery are key customers, as non-ferrous components are essential for their production. These manufacturers produce semiconductor fabrication equipment (Tokyo Electron Ltd. [TSE Prime: 8035], ULVAC, Inc. [TSE Prime: 6728], and their affiliates), OA equipment (Canon Inc. [TSE Prime: 7751], Ricoh Company, Ltd. [TSE Prime: 7752], and their affiliates), and precision instruments.

The company uses a proprietary computer system to determine selling prices for each customer. Prices are based on such factors as the quality of materials, market prices at the time of transaction, product quantity, processing details, customer order history, payment method, and the customer's creditworthiness. For products in the company's standard inventory, selling prices of aluminum products are affected significantly by the market price of aluminum at the time of sale. Similarly, the market price of electrolytic copper affects the selling price of copper products in standard inventory. Accordingly, the company faces the risk of valuation losses when it sells products as market prices are falling. The cost of manufacturing consists of the price of purchased parts and materials and the cost of processing them according to customer requirements. Major components of SG&A spending are the expenses of human resources in sales and administrative departments (363 employees as of end-FY03/22, of whom 119 were in sales) and transportation expenses. The company reports segment information by geographic location. In FY03/22, Japan accounted for 95.3% of revenue, China for 3.1%, and other locations for 1.6%. Similarly, Japan accounted for 95.4% of segment profit, China for 2.5%, and other locations for 2.1%.

The company's business is based on carrying inventory and leveraging the customer information it amasses to achieve short delivery times, but inventory turnover is relatively low: 8.1x in FY03/22 (around 1.5 month in inventory), compared with a wholesale industry average of 12.9x (Ministry of Economy, Trade and Industry). To increase profitability, the company adds

value to its products through various types of processing. The company seeks to distinguish itself by handling a large number of items (32,700 including standard stock items, items produced to order, and special-order items) and achieving short delivery times while maintaining a processing function. Hakudo says this business model is rare for a trading company specializing in non-ferrous metals. One similar company, in terms of the standard stock item business, is UEX, Ltd. (TSE Standard: 9888). Alconix Corporation (TSE Prime: 3036) is similar to Hakudo in terms of special-order items.

As part of its efforts to address ESG/SDGs, the company has established an ESG/SDG management committee led by senior management. The company explains that by expanding the use of non-ferrous and environmentally friendly materials such as aluminum and cadmium-free brass, and by promoting their alternative use, it aims to help realize a low-carbon society and reduce industrial waste through recycling.

## Earnings trends

FY03/22, the company generated revenue of JPY55.4bn (+41.4% YoY), operating profit of JPY4.3bn (+114.7% YoY), recurring profit of JPY4.4bn (+109.9% YoY), and net income attributable to owners of the parent of JPY3.0bn (+131.2% YoY). In terms of revenue, the company managed to limit the customer service degradation to a certain level by promoting the use of Hakudo Network Service and utilizing remote sales tools. The number of items listed on Hakudo Network Service was increased from 21,200 at end-March 2021 to 32,700 at the end-March 2022 to improve customer convenience. Gross profit was JPY10.3bn (+54.6% YoY) and GPM was 18.6% (+1.6pp YoY) thanks to increased revenue and the market prices of raw materials. SG&A expenses increased to JPY6.1bn (+29.1% YoY), but the SG&A expense ratio declined 1.2pp YoY. As a result, operating profit increased 114.7% YoY and OPM reached 7.7% (+2.6pp YoY). Inventory revaluation gains for the period were JPY610mn.

For FY03/23, the company forecasts revenue of JPY62.1bn (+12.0% YoY), operating profit of JPY4.0bn (-6.7% YoY), recurring profit of JPY4.1bn (-6.7% YoY), and net income attributable to owners of the parent of JPY2.9bn (-3.5% YoY). The company states that the outlook is uncertain because it is not clear when the COVID-19 pandemic will be brought under control and because Russia's invasion of Ukraine makes economic prediction difficult. In addition, since the market prices of raw materials are difficult to forecast, inventory revaluation effects are incorporated into the forecast only through Q1, and not through the entire fiscal year. No change was made to the forecast at the time of cumulative Q3 results announcement (out February 8, 2023).

Hakudo released its medium-term management plan on May 26, 2022 (FY03/22–FY03/25) with a subtitle of "Moving forward, exceeding expectations." The company's long-term goal is to be a platform operator working to support the manufacturing industry, with sales of JPY100.0bn, recurring profit of JPY10.0bn, and an overseas sales ratio of 20% by FY03/32. The medium-term management plan positioned to achieve this, with management targets for the final year of the plan calling for revenue of JPY71.8bn (average growth rate of 9.0% over the plan period) and recurring profit of JPY5.4bn (7.3%), and key financial plan indexes being ROIC of 15%, operating cash flow of JPY4.7bn, and a dividend payout ratio of 40.0%. The company plans to cultivate its existing business in Japan, develop new businesses, and expand its overseas network.

## Strengths and weaknesses

### Strengths:

- 1) In addition to its inventory function (as a trading company), the company has a processing function, which helps lower customers' manufacturing costs.
- 2) The Hakudo Network Service is a highly convenient service that enables immediate order placement and delivery, using such data as market prices, processing costs, and customer information.
- 3) Accumulated customer data allows the company to manage inventories and control processing costs.

### Weaknesses:

- 1) Impact from conditions in raw material markets is liable to grow because the company frequently serves specific customer groups.
- 2) A focus on small order quantities and rapid deliveries makes it difficult to achieve economies of scale in logistics and control logistics costs.
- 3) The company has limited ability to meet the needs of Japanese customers that are expanding overseas.

# Key financial data

Income statement	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22	FY03/23
(JPYmn)	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Est.
<b>Revenue</b>	<b>22,151</b>	<b>25,571</b>	<b>29,923</b>	<b>32,461</b>	<b>34,627</b>	<b>43,709</b>	<b>45,228</b>	<b>41,798</b>	<b>39,219</b>	<b>55,441</b>	<b>62,100</b>
YoY	-7.1%	15.4%	17.0%	8.5%	6.7%	26.2%	3.5%	-7.6%	-6.2%	41.4%	12.0%
<b>Gross profit</b>	<b>4,226</b>	<b>4,680</b>	<b>5,487</b>	<b>5,345</b>	<b>6,014</b>	<b>7,527</b>	<b>7,201</b>	<b>6,489</b>	<b>6,670</b>	<b>10,310</b>	
YoY	-0.6%	10.8%	17.2%	-2.6%	12.5%	25.1%	-4.3%	-9.9%	2.8%	54.6%	
Gross profit margin	19.1%	18.3%	18.3%	16.5%	17.4%	17.2%	15.9%	15.5%	17.0%	18.6%	
<b>Operating profit</b>	<b>1,380</b>	<b>1,665</b>	<b>2,038</b>	<b>1,707</b>	<b>1,986</b>	<b>2,785</b>	<b>2,250</b>	<b>1,659</b>	<b>1,982</b>	<b>4,256</b>	<b>3,970</b>
YoY	0.4%	20.6%	22.4%	-16.3%	16.3%	40.3%	-19.2%	-26.3%	19.5%	114.7%	-6.7%
Operating profit margin	6.2%	6.5%	6.8%	5.3%	5.7%	6.4%	5.0%	4.0%	5.1%	7.7%	6.4%
<b>Recurring profit</b>	<b>1,366</b>	<b>1,703</b>	<b>2,073</b>	<b>1,750</b>	<b>2,043</b>	<b>2,846</b>	<b>2,334</b>	<b>1,697</b>	<b>2,083</b>	<b>4,374</b>	<b>4,080</b>
YoY	-2.8%	24.6%	21.7%	-15.5%	16.7%	39.3%	-18.0%	-27.3%	22.8%	109.9%	-6.7%
Recurring profit margin	6.2%	6.7%	6.9%	5.4%	5.9%	6.5%	5.2%	4.1%	5.3%	7.9%	6.6%
<b>Net income</b>	<b>827</b>	<b>1,060</b>	<b>1,351</b>	<b>1,195</b>	<b>1,405</b>	<b>2,028</b>	<b>1,565</b>	<b>1,149</b>	<b>1,282</b>	<b>2,964</b>	<b>2,860</b>
YoY	6.6%	28.2%	27.4%	-11.6%	17.6%	44.3%	-22.8%	-26.6%	11.6%	131.2%	-3.5%
Net margin	3.7%	4.1%	4.5%	3.7%	4.1%	4.6%	3.5%	2.7%	3.3%	5.3%	4.6%
<b>Per-share data (split-adjusted; JPY)</b>											
No. of shares outstanding(000 shares)	12,840	12,840	12,840	11,343	11,343	11,343	11,343	11,343	11,343	11,343	
EPS (JPY)	64.4	82.6	105.4	105.3	123.9	178.8	138.0	101.3	113.0	261.3	252.2
EPS (fully diluted; JPY)	-	-	-	-	-	-	-	-	-	-	-
Dividend per share (JPY)	32.0	33.0	48.0	45.0	58.5	75.0	77.0	58.0	58.0	115.0	109.0
Book value per share (JPY)	1,027	1,086	1,193	1,235	1,305	1,434	1,493	1,506	1,576	1,748	
<b>Balance sheet (JPYmn)</b>											
Cash and cash equivalents	5,509	5,717	4,301	4,256	4,820	5,902	6,088	4,969	5,924	8,675	
<b>Total current assets</b>	<b>15,901</b>	<b>17,558</b>	<b>19,119</b>	<b>19,060</b>	<b>21,758</b>	<b>26,740</b>	<b>25,343</b>	<b>23,695</b>	<b>24,851</b>	<b>33,616</b>	
Tangible fixed assets	4,723	4,916	5,236	5,317	5,977	6,487	6,835	6,608	6,370	6,098	
Investments and other assets	573	570	597	575	650	982	1,031	1,355	1,492	1,558	
Intangible assets	225	192	239	217	219	261	407	412	402	509	
<b>Total assets</b>	<b>21,422</b>	<b>23,236</b>	<b>25,191</b>	<b>25,169</b>	<b>28,604</b>	<b>34,191</b>	<b>33,616</b>	<b>32,071</b>	<b>33,115</b>	<b>41,781</b>	
Short-term debt	-	-	-	-	-	-	357	-	-	-	
<b>Total current liabilities</b>	<b>8,179</b>	<b>9,257</b>	<b>11,636</b>	<b>11,133</b>	<b>13,772</b>	<b>17,900</b>	<b>16,630</b>	<b>14,946</b>	<b>15,190</b>	<b>21,903</b>	
Long-term debt	-	-	-	-	-	-	-	-	-	-	
<b>Total fixed liabilities</b>	<b>57</b>	<b>29</b>	<b>29</b>	<b>31</b>	<b>31</b>	<b>30</b>	<b>58</b>	<b>44</b>	<b>56</b>	<b>48</b>	
<b>Total liabilities</b>	<b>8,236</b>	<b>9,287</b>	<b>11,665</b>	<b>11,163</b>	<b>13,804</b>	<b>17,930</b>	<b>16,688</b>	<b>14,990</b>	<b>15,246</b>	<b>21,952</b>	
Shareholders' equity	13,187	13,949	13,526	14,006	14,801	16,261	16,928	17,081	17,870	19,829	
<b>Total net assets</b>	<b>13,187</b>	<b>13,949</b>	<b>13,526</b>	<b>14,006</b>	<b>14,801</b>	<b>16,261</b>	<b>16,928</b>	<b>17,081</b>	<b>17,870</b>	<b>19,829</b>	
Total interest-bearing debt	-	-	-	-	-	-	357	-	-	-	
<b>Cash flow statement (JPYmn)</b>											
Cash flows from operating activities	1,329	1,271	1,255	1,269	2,414	3,103	2,074	1,503	2,128	4,556	
Cash flows from investing activities	-176	-1,876	-337	86	-1,301	-1,379	-1,028	-1,367	-553	-677	
Cash flows from financing activities	-321	-411	-1,990	-544	-511	-664	-850	-1,230	-657	-1,202	
<b>Financial ratios</b>											
ROA (RP-based)	6.6%	7.6%	8.6%	7.0%	7.6%	9.1%	6.9%	5.2%	6.4%	11.7%	
ROE	6.4%	7.8%	9.8%	8.7%	9.8%	13.1%	9.4%	6.8%	7.3%	15.7%	
Equity ratio	61.6%	60.0%	53.7%	55.6%	51.7%	47.6%	50.4%	53.3%	54.0%	47.5%	
Total asset turnover	106.6%	114.5%	123.6%	128.9%	128.8%	139.2%	133.4%	127.3%	120.3%	148.0%	
Net margin	3.7%	4.1%	4.5%	3.7%	4.1%	4.6%	3.5%	2.7%	3.3%	5.3%	

Source: Shared Research based on company data

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

# Recent updates

## Consolidated subsidiary acquires shares in West Coast Aluminum & Stainless LLC

2023-03-01

On March 1, 2023, Hakudo Co. Ltd. announced that a consolidated subsidiary decided to acquire a stake in West Coast Aluminum & Stainless LLC.

(Click [here](#) for the press release.)

The company announced that Hakudo USA Inc., a consolidated subsidiary, decided at the board of directors meeting held on March 1, 2023 (Japan time) to acquire a stake in West Coast Aluminum & Stainless, LLC (WCAS) to make it a subsidiary (a sub-subsidiary of Hakudo).

The acquisition is part of the company's efforts to actively pursue business expansion overseas. The company says that WCAS has an excellent customer base and an experienced sales team in the thin non-ferrous metals business. The company will provide its products, processing services, and e-commerce system to WCAS. WCAS posted revenue of JPY5.2bn (+27.4% YoY) based on the exchange rate of JPY135/USD. The contract was signed on February 28, 2023 (local time). The transfer is scheduled to be executed on March 20, 2023. The acquisition price will be determined on the date of transfer since WCAS is a limited liability company. The company says that the acquisition will not have a material impact on its FY03/23 consolidated earnings. For details, please see the press release.

## Decision to establish a company in the US

2022-12-15

On December 14, 2022, Hakudo Co., Ltd. has announced its decision to establish a company in the United States.

The company announced that its Board of Directors resolved to establish a new wholly owned subsidiary in the United States at a meeting held on December 14, 2022.

Scheduled for establishment in December 2022, this new company has been tentatively named Hakudo USA Inc. and will have paid-in capital of USD10,000. Through the creation of this company, Hakudo aims to establish a wholly owned subsidiary in the United States and provide management guidance to subsidiaries in regions where it intends to invest moving forward. The establishment of this company will have only negligible impact on the company's earnings forecast for FY03/23. For further details, please refer to the company's corresponding IR release.



YoY		-22.9%	-24.6%	72.0%	46.4%	243.0%	222.8%	96.9%	41.7%	22.5%	6.1%	-20.6%
Japan	Operating profit	258	302	588	793	940	908	1,144	1,112	1,184	961	926
	YoY	-30.1%	-19.3%	58.5%	40.9%	264.3%	200.7%	94.6%	40.2%	26.0%	5.8%	-19.1%
	Operating profit margin	2.9%	3.8%	6.2%	7.3%	7.8%	7.2%	8.2%	7.8%	7.7%	6.5%	6.2%
	% of total	89.4%	102.6%	97.3%	99.8%	95.0%	95.5%	96.1%	98.8%	97.6%	95.3%	98.0%
China	Operating profit	20	-4	11	-6	15	23	22	10	-11	21	-3
	YoY	-	-	-	-	-25.0%	-	100.0%	-	-	-8.7%	-
	Operating profit margin	6.3%	-	3.2%	-	3.6%	5.7%	4.7%	2.3%	-	4.0%	-
	% of total	6.9%	-1.4%	1.8%	-0.8%	1.5%	2.4%	1.8%	0.9%	-	2.1%	-
Other	Operating profit	9	-4	6	8	33	19	25	4	39	26	23
	YoY	-47.1%	-	200.0%	-	266.7%	-	316.7%	-50.0%	18.2%	36.8%	-8.0%
	Operating profit margin	6.0%	-	5.7%	5.7%	16.8%	8.6%	10.4%	1.8%	13.4%	8.6%	7.6%
	% of total	3.1%	-1.4%	1.0%	1.0%	3.3%	2.0%	2.1%	0.4%	3.2%	2.6%	2.4%

Source: Shared Research based on company data

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

## Cumulative Q3 FY03/23 results

### Summary

- Revenue: JPY47.4bn (+17.1% YoY)
- Operating profit: JPY3.2bn (+1.1% YoY)
- Recurring profit: JPY3.4bn (+4.8% YoY)
- Net income attributable to owners of the parent: JPY2.3bn (+4.6% YoY)

### Changes in market conditions and demand

The semiconductor production equipment industry, which significantly affects the company's group performance, is expected to see an increase in demand for semiconductors driven by IoT, DX, and AI. However, the industry is in a phase of ongoing inventory adjustment for now. Elsewhere, orders began to fall in the machine-tool industry, especially for exports. In the aircraft industry, capex remains sluggish despite some signs of recovery.

Given the constraints on customer visits and face-to-face sales, the company continued to promote the use of its 24/7 quotation and ordering website (Hakudo Network Service) and remote sales tools. These efforts helped the company to prevent customer service from deteriorating significantly. The company also worked to substantially increase the number of items listed on Hakudo Network Service (from 32,700 at end-March 2022 to 46,000 as of end-December 2022) and make the site more convenient. At the three consolidated subsidiaries (AQR Co., Ltd., Shanghai Hakudo Precision Materials Co., Ltd., and Hakudo (Thailand) Co., Ltd.), while sales of Shanghai Hakudo Precision Materials fell due to the impact of COVID-19-related activity restrictions, sales at the other two were robust, increasing YoY.

### Financial results: Increase in revenue and profit

Revenue grew 17.1% YoY owing largely to an increase in selling prices, despite ongoing inventory adjustments. Revenue from the sale of standard stock items was JPY29.3bn (+12.4% YoY), and revenue from the sale of special-order items was JPY18.1bn (+38.1% YoY). On a parent basis, sales of standard stock items grew JPY3.6bn YoY, thanks to a JPY4.7bn increase driven by higher unit selling prices, offsetting a JPY1.1bn decrease caused by a decline in sales volume. Special-order item sales were up JPY3.2bn YoY, attributed to increases of JPY2.0bn on the back of higher unit selling prices and JPY1.2bn on higher sales volume.

Q3 (three months) revenue of JPY15.6bn was up 6.5% YoY. By product category, revenue grew 5.4% for aluminum, 4.9% for copper, and 14.4% for stainless steel. As of end-December 2022, market prices for key raw materials were JPY1,160,000/t for electrolytic copper (+JPY30,000/t from end-September 2022) and JPY393,000/t for aluminum ingots (Nikkei monthly average; -4,000/t). Market prices for stainless steel remained unchanged YoY at JPY680,000/t (Japan Metal Daily median; +80,000/t).

Gross profit was JPY7.9bn (+4.0% YoY) and the GPM was 16.6% (-2.1pp YoY). The decline in GPM was due to slower revenue growth coupled with high levels of personnel-related expenses in the domestic manufacturing division and increased cost burdens caused by soaring logistics and energy costs. SG&A expenses of JPY4.7bn were also up 6.0% YoY, due to normalization of sales activities and increases in various costs, including transportation and electricity bills. Inventory valuation gains in cumulative Q3 FY03/23 were JPY451mn, compared with JPY422mn in cumulative Q3 FY03/22.

### Performance by segment

- Japan: Segment revenue of JPY45.3bn (+17.5% YoY), operating profit of JPY3.1bn (+2.6% YoY)



- China: Segment revenue of JPY1.2bn (-5.5% YoY), operating profit of JPY7mn (-88.3% YoY)
- Others: Segment revenue of JPY896mn (+36.0% YoY), operating profit of JPY88mn (+14.3% YoY)

Hakudo's reporting segments indicate where its earnings were generated. Its Japan segment includes results stemming from the parent company and AQR Corporation, while its China segment reflects the performance of Shanghai Hakudo Precision Materials Co., Ltd., and its Others segment indicates earnings from Hakudo (Thailand) Co., Ltd. Hakudo plans to continue collaborating with Oristar Corporation in Vietnam.

In Japan, revenue and profit grew in line with parent performance. In China, revenue and profit fell despite demand for special-order items primarily from the semiconductor sector and specialty steel, due to a decline in sales of standard stock items. In Others, revenue and profit increased thanks in part to the introduction of Hakudo e-commerce packages to Hakudo Thailand, and the company's focus on expanding business with local Thai companies and growing its presence in the local automobile-related industry.

## 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.
<b>Revenue</b>	<b>17,836</b>	<b>21,383</b>	<b>39,219</b>	<b>25,819</b>	<b>29,622</b>	<b>55,441</b>	<b>31,775</b>	<b>30,325</b>	<b>62,100</b>
YoY	-12.8%	0.2%	-6.2%	44.8%	38.5%	41.4%	23.1%	2.4%	12.0%
Cost of revenue	15,037	17,513	32,549	20,971	24,160	45,131	26,372		
<b>Gross profit</b>	<b>2,800</b>	<b>3,871</b>	<b>6,670</b>	<b>4,847</b>	<b>5,462</b>	<b>10,310</b>	<b>5,403</b>		
YoY	-9.3%	13.8%	2.8%	73.1%	41.1%	54.6%	11.5%		
Gross profit margin	15.7%	18.1%	17.0%	18.8%	18.4%	18.6%	17.0%		
SG&A expenses	2,217	2,472	4,688	2,907	3,146	6,054	3,181		
YoY	-4.6%	-1.4%	-2.9%	31.2%	27.3%	29.1%	9.4%		
SG&A ratio	12.4%	11.6%	12.0%	11.3%	10.6%	10.9%	10.0%		
<b>Operating profit</b>	<b>583</b>	<b>1,399</b>	<b>1,982</b>	<b>1,940</b>	<b>2,316</b>	<b>4,256</b>	<b>2,222</b>	<b>1,748</b>	<b>3,970</b>
YoY	-23.8%	56.4%	19.5%	232.8%	65.5%	114.7%	14.5%	-24.5%	-6.7%
Operating profit margin	3.3%	6.5%	5.1%	7.5%	7.8%	7.7%	7.0%	5.8%	6.4%
<b>Recurring profit</b>	<b>617</b>	<b>1,467</b>	<b>2,083</b>	<b>1,993</b>	<b>2,380</b>	<b>4,374</b>	<b>2,360</b>	<b>1,720</b>	<b>4,080</b>
YoY	-23.1%	63.9%	22.8%	223.3%	62.3%	109.9%	18.4%	-27.7%	-6.7%
Recurring profit margin	3.5%	6.9%	5.3%	7.7%	8.0%	7.9%	7.4%	5.7%	6.6%
<b>Net income</b>	<b>428</b>	<b>854</b>	<b>1,282</b>	<b>1,355</b>	<b>1,609</b>	<b>2,964</b>	<b>1,643</b>	<b>1,217</b>	<b>2,860</b>
YoY	-22.0%	42.4%	11.6%	216.6%	88.4%	131.2%	21.2%	-24.4%	-3.5%
Net margin	2.4%	4.0%	3.3%	5.2%	5.4%	5.3%	5.2%	4.0%	4.6%

Versus the full-year FY03/23 forecast, cumulative Q3 revenue reached 76.3%, operating profit 79.8%, recurring profit 82.6%, and net income 80.0%. For 2H, the company expects performance to be affected by uncertain market conditions and a revision of selling prices due to the formalization of transaction prices for aluminum products and other products (a method of calculating transaction prices that takes into account the price fluctuation of additive metals and other factors). No change was made to the forecast at the time of cumulative Q3 results announcement (out February 8, 2023). The full-year forecast (as of May 13, 2022) is as follows.

The earnings forecast released together with the FY03/22 results calls for revenue of JPY62.1bn (+12.0% YoY), operating profit of JPY4.0 (-6.7% YoY), recurring profit of JPY4.1bn (-6.7% YoY), and net income of JPY2.9bn (-3.5% YoY).

The company projects a decline in profits for the full year, reflecting difficulties predicting the global trends and raw materials market conditions, as well as uncertainties regarding the methods of calculating transaction prices and determining selling prices. Further, the company expects inventory valuation gains for the full year to solely comprise the JPY171mn recorded in Q1.

Hakudo is focused on developing overseas markets over the medium term. One specific measure is the development of e-commerce packages for overseas subsidiaries. These packages are applications linked to a company's core system that allows for placing/receiving orders similar to the Hakudo Network Service already in place in Japan. Hakudo (Thailand) Co., Ltd. began using these e-commerce packages from 2H FY03/23. From FY03/24 onward, the company plans to offer this application to partner companies and sales agents in Southeast Asia, including Shanghai Hakudo Precision Materials Co., Ltd. (a consolidated subsidiary based in Shanghai). The company is also continuing to develop Hakudo Net Service, with the aims of expanding the product lineup offered on the service and enhancing functions. Further, in December 2022, it announced plans to establish a wholly owned subsidiary in the US. It plans to launch an investment business in the US and expand revenue from the non-ferrous metal import and wholesale business.

# Historical differences between initial company forecasts and results

Results vs. Initial Est. (JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
Revenue (Initial Est.)	24,500	23,800	27,000	31,800	33,200	36,900	46,000	45,400	39,000	48,000
Revenue (Results)	22,151	25,571	29,923	32,461	34,627	43,709	45,228	41,798	39,219	55,441
<b>Results vs. Initial Est.</b>	<b>-9.6%</b>	<b>7.4%</b>	<b>10.8%</b>	<b>2.1%</b>	<b>4.3%</b>	<b>18.5%</b>	<b>-1.7%</b>	<b>-7.9%</b>	<b>0.6%</b>	<b>15.5%</b>
Operating profit (Initial Est.)	1,820	1,500	1,720	2,100	2,050	2,240	2,990	2,330	1,500	2,920
Operating profit (Results)	1,380	1,665	2,038	1,707	1,986	2,785	2,250	1,659	1,982	4,256
<b>Results vs. Initial Est.</b>	<b>-24.2%</b>	<b>11.0%</b>	<b>18.5%</b>	<b>-18.7%</b>	<b>-3.1%</b>	<b>24.3%</b>	<b>-24.8%</b>	<b>-28.8%</b>	<b>32.1%</b>	<b>45.8%</b>
Recurring profit (Initial Est.)	1,870	1,550	1,770	2,160	2,100	2,310	3,050	2,410	1,560	3,000
Recurring profit (Results)	1,366	1,703	2,073	1,750	2,043	2,846	2,334	1,697	2,083	4,374
<b>Results vs. Initial Est.</b>	<b>-26.9%</b>	<b>9.9%</b>	<b>17.1%</b>	<b>-19.0%</b>	<b>-2.7%</b>	<b>23.2%</b>	<b>-23.5%</b>	<b>-29.6%</b>	<b>33.6%</b>	<b>45.8%</b>
Net income (Initial Est.)	1,170	930	1,100	1,440	1,410	1,570	2,070	1,630	1,070	2,070
Net income (Results)	827	1,060	1,351	1,195	1,405	2,028	1,565	1,149	1,282	2,964
<b>Results vs. Initial Est.</b>	<b>-29.3%</b>	<b>14.0%</b>	<b>22.8%</b>	<b>-17.0%</b>	<b>-0.3%</b>	<b>29.2%</b>	<b>-24.4%</b>	<b>-29.5%</b>	<b>19.8%</b>	<b>43.2%</b>

Source: Shared Research based on company data

Substantial differences between forecasts and results occurred in FY03/13 and from FY03/18 to FY03/22.

In FY03/13, as in the previous year, Japanese manufacturing capex was sluggish due to a global economic slowdown caused by yen appreciation and the European financial crisis.

In FY03/18, brisk sales to customers in the semiconductor production equipment industry (a key customer segment) led to higher-than-expected revenue. Profit outstripped company expectations, due to higher revenue and favorable raw materials prices. Performance declined in FY03/19, rebounding negatively from strong performance in semiconductors the year before. Semiconductor memory prices fell, the supply/demand gap loosened, and capex in the semiconductor industry entered an adjustment phase. The LCD manufacturing equipment industry also decelerated rapidly. In FY03/20, semiconductor demand was sluggish as a result of US–China trade friction, causing lackluster results in the semiconductor production equipment sector. These factors, plus a deterioration in raw materials prices, lowered company profits.

In FY03/21, the company expected performance to be affected significantly by the COVID-19 pandemic. However, in 2H, demand for semiconductors began to pick up due to an increase in ICT applications, such as IoT, AI, and 5G. This situation caused the market for semiconductor production equipment to expand, and raw materials prices rose, pushing performance beyond initial expectations.

Two upward revisions were made during FY03/22. In August 2021, the revision was mainly due to a lower cost of sales ratio on the back of higher revenue, as well as the impact of raw materials prices. In December 2021, demand exceeded initial forecasts for the semiconductor production equipment industry, which is the company's main area of business. With the soaring prices of raw materials and increased demand for semiconductor production equipment, both sales and recurring profit reached record highs.

## Medium-term management plan: Moving forward, exceeding expectations (FY03/23–FY03/25)

Hakudo released its medium-term management plan on May 26, 2022 (FY03/23 - FY03/25) with a subtitle of "Moving forward, exceeding expectations." Although the company had conveyed the direction of specific measures by FY03/22, this is the first time announcement of a comprehensive company-wide business strategy with specific targets.

As of Q3 FY03/23, to accelerate business growth through Hakudo Network Service, the company strengthened a system for providing estimates to customers, expanded products and materials handled, and completely overhauled its e-commerce site to make it accessible to individual users.

## Company Vision

Hakudo's vision is to be a platform operator working to support the manufacturing industry. To differentiate itself from competitors, "exceptional quality, speed and service at a satisfying price" is at the core of its business strategy. The company envisions itself supporting global manufacturers by expanding the business model it has developed in Japan to overseas markets.

The main regions it will target are Asia and North America. In addition to Hakudo's own and other companies' inventories, parts and molded items which it currently handles, it plans to handle subsidiary materials and tools, as well as commercialize processing with 3D printers. In FY03/32, 10 years on from initiating its plan, the company has set targets for revenue of JPY100.0bn, recurring profit of JPY10.0bn, and an overseas sales ratio of 20%. The company considers this most recent medium-term management plan as a step towards actualizing its Vision.

## Management targets

The management targets set for the final year of the medium-term management plan are revenue of JPY71.8bn (average growth rate of 9.0% over the plan period), recurring profit of JPY5.4bn (growth rate 7.3%), and key financial plan indexes being ROIC of 15%, operating cash flow of JPY4.7bn, and dividend payout ratio of 40.0%. Plans include enhancing existing businesses in Japan, developing new businesses, and expanding the company's network overseas.

### Medium-Term Management Plan Targets

(JPYmn/%)		FY03/22	FY03/23	FY03/24	FY03/25
		Act.	Est.	Plan	Plan
Management target	Revenue	55,441	62,100	66,800	71,800
	YoY	41.4%	12.0%	7.6%	7.5%
	Recurring profit	4,374	4,080	4,500	5,400
	YoY	109.9%	-6.7%	10.3%	20.0%
	Recurring profit margin	7.9%	6.6%	6.7%	7.5%
Key financial plan indicator	ROIC	15.0%	-	-	15.0%
	Operating cashflow	4,500	-	-	4,700
Shareholder return	Payout ratio	44.0%	-	-	40.0%

Source: Shared Research based on company data

## Policies

### Enhancing core businesses

Manufacturers of semiconductor production equipment currently account for a large percentage of sales (45% of domestic revenue in FY03/22). The company believes it needs to diversify its business by cultivating new customers. The company plans to step up business in the aircraft and automotive fields, as these sectors take advantage of aluminum's light weight and recyclability. The company also believes aluminum will be important to achieving SDGs, as the metal has characteristics that contribute to reducing environmental impact.

### Strengthening the Hakudo Network

First, the company will work to augment its product lineup. The company has already expanded its own inventory. It will expand its top line of standard stock items by increasing the stock it handles from other companies, along with introducing environmentally friendly products (ECO series) and high value-added products. In addition, Hakudo will collaborate with other companies to expand its product lineup to include not only non-ferrous metal materials, but also tools and other materials that support manufacturing sector needs.

Next, though currently only the company has access to its Hakudo Network Service, it plans to expand the network's coverage to include distributors. Hakudo will promote its online estimate and ordering system by having distributors use the service directly, as well as promote its combined use with enterprise resource planning.

The company will also work to improve the profit margin of the service. Specifically, it plans to increase the degree of milling of the components it sells, boost sales of high-margin products, and improve the rate of small and medium orders.

### Enhancing processing performance and supply capacity

To start, the company will boost the processing capacity of its factories, expanding its ability to provide services. In addition, for component processing services, the company will enhance its virtual supply capacity by building alliances with other processing companies and expanding its network of partner factories. In addition, it plans to differentiate its parts processing service by improving customer convenience through efforts like using CAD data to automate part quotations.

### Reform supply chain management to enhance procurement and supply capabilities

Hakudo plans to introduce a purchase management system to improve ordering efficiency and inventory management while reducing management expenses. It will also introduce a system to standardize operations among factories and reduce labor,

thereby cutting costs and making delivery more efficient. Depending on market trends, Hakudo may consider the merger of existing companies and expansion of supply capacity by adding new factories.

## **Expanding into growth business fields: semiconductors, aerospace, automotive**

The company intends to enter these growing fields, forming a sales organization for each one and utilizing an inventory management system for special-order items to help attract and retain customers. The company will develop products tailored to demand trends specific to each field. This includes the development of new environmentally friendly materials for its ECO material series for the semiconductor field, the expansion of its line of aviation industry materials for the aerospace field, and the development of new technologies in collaborations with industry and academia for the automotive field.

Regarding the development of its processing system, the company has begun contract manufacturing of metal products using 3D printers for the automotive field, and has launched efforts to become a convenient source of aerospace-standard materials. The company's Kanagawa and Shiga factories have acquired JIS Q9100 certification, meeting specific aerospace industry requirements. In January 2020, the company introduced a water jet used for cutting any material into any shape desired, and the company expects it will be of value in the aerospace and aviation fields.

## **Expanding overseas business and entering new markets**

The company already conducts business through its regional subsidiaries in Thailand and Shanghai, China. In Vietnam, it works with Oristar Corporation (unlisted), a major local non-ferrous metals trading company, with business focusing on Oristar's inventory. In the regions where Hakudo is already established, it is developing strategies based on the extent of its presence. Hakudo Network Service has already been introduced in China, and the company plans to expand its product lineup of subsidiary materials and tools, as well as its processing capacity. In Thailand, it has plans to strengthen its logistics network, and in Vietnam, it will expand the products it handles to include other companies' stock items, subsidiary materials, and tools. It plans to introduce the Hakudo Network Service in both countries.

New regions the company plans to enter through alliances with local companies include South Korea, Taiwan, and the US. It also intends to introduce the Hakudo Network Service in all of these regions, with a product lineup that will include its own and other companies' stock items, as well as subsidiary materials and tools. In the US, the company plans to expand its processed items on offer as well as processing capabilities.

## **Strengthening of management base**

### **Enhancing digital platforms**

Hakudo will reform its operating processes by introducing new digital technologies. This includes utilizing AI to improve the efficiency of customer service operations; it will also leverage its DX Promotion Project to make operations more efficient by going paperless and boost efficiency through the use of RPA and IoT for in-house back office operations and manufacturing site operations.

To strengthen intellectual property strategies, it will take specific measures to develop the Hakudo Network Service in Japan and overseas. To start, it will strengthen structures and register rights required to provide and use the Hakudo Network Service and related intellectual property overseas.

### **Bolstering human resources (expand procurement, further train existing staff, improve engagement)**

To implement these measures, the company understands the need to procure more talent and boost the skill level of its current staff. Starting with the strategic procurement of talent needed to execute Hakudo's strategies, the company will clarify requirements by introducing human resource skill maps, raise their skill levels by expanding the training system, and enhance their development through establishing an HR department. In addition, it will improve employee satisfaction by implementing work style reforms.

### **Strengthen PDCA management for strategy effectiveness**

Hakudo will enhance progress management to make its medium-term management plan feasible. It plans to utilize measures like target management charts to help maximize recurring profit. It will also introduce multifaceted corporate management using indicators like ROIC and cash flow in addition to income statements.

### **Strengthen governance**

Hakudo will do this to enhance corporate value over the medium to long term. Specific measures include further strengthening the following: management and supervisory functions of directors; executive structure and functions

(management committee members); sustainability management to increase corporate value over the medium to long term; and the company's information security system, including through the acquisition of ISMS certification (ISO27001).

## Sustainable management

### Basic policy

The company has formulated a new Basic Sustainability Policy that balances the enhancement of corporate value with working towards a sustainable society. Its content is as follows.

1. Deepening Hakudo's understanding of sustainable management as concerns ESG and SDGs, and contribute to the environment and society through its business.
2. Striving to give due consideration to nature and the global environment, helping prevent global warming, and creating a recycling-oriented society.
3. Promoting the health of employees while recruiting a diversity of human resources and recognizing a variety of training and working styles.
4. Work to improve the health, efficiency, and transparency of the Group and reduce various risks.
5. Endeavor to strengthen relationships with stakeholders involved in the Group's business.
6. Undertake initiatives toward the realization of a society in which everyone can live with peace of mind.

### Initiatives

In line with the Basic Sustainability Policy outlined above, the company will address the following material issues with a goal of contributing to society and sustainably increasing corporate value. The company has established an ESG/SDGs Management Committee consisting of six subcommittees, which will play a central role in promoting these initiatives.

## Sustainable management issues and initiatives

Major material issues		Specific Initiatives	Related SDGs Goals
1 Reducing environmental impact and responding to climate change	In addition to reducing the business's environmental impact, Hakudo will contribute to society through providing environmentally friendly products	<ul style="list-style-type: none"> <li>• Reducing CO2 emissions</li> <li>• Reducing waste and conservation of resources</li> </ul>	379,111,213
2 Building an environmentally responsible supply chain	Hakudo takes environmental responsibility seriously through its efforts to build a sustainable supply chain	<ul style="list-style-type: none"> <li>• Offering more environmentally friendly products</li> <li>• Promoting green procurement</li> <li>• Strengthening relationships with suppliers</li> <li>• Respecting human rights</li> </ul>	81,213
3 Social initiatives	Hakudo creates new value through its partnerships and contributes to local communities	<ul style="list-style-type: none"> <li>• Contributing to local communities</li> <li>• Collaborating with industry and academia</li> </ul>	4,911
4 Investing in people	Hakudo strives to be organization that's easy to work for and with, where a diversity of talent gains satisfaction from their work	<ul style="list-style-type: none"> <li>• Increasing employee satisfaction</li> <li>• Promoting diversity</li> <li>• Creating a healthy and pleasant work environment</li> <li>• Improving employee education</li> </ul>	345,810
5 Corporate governance	Through thorough compliance and risk management, Hakudo seeks to run its business operations smoothly	<ul style="list-style-type: none"> <li>• Bolstering compliance</li> <li>• Improving information security</li> <li>• Thorough risk and crisis management</li> </ul>	3,111,216

Source: Shared Research based on company data

## Investment plan

The key strategy policies above can be broadly categorized into three fields: strengthening supply capacity and enhancing processing capabilities, strengthening M&A and alliances, and strengthening digital transformation and the Hakudo Network Service. Investment during the planning period for these three fields is as follows.

## Investment plan per item

Investment items	Investment amount (JPYmn)
Enhancement of supply capability and machining functions	4,500
Strengthening of M&A activities and alliances	2,500
Further digital transformation and enhancement of Hakudo Network Service	1,000
Total	8,000

The key strategic policies regarding strengthening supply capacity and enhancing processing capabilities are to develop a network of processing companies, to enhance procurement and supply capabilities through SCM reform, and to expand fields of growth while boosting sales and marketing. Expansion of overseas business is a key policy regarding strengthening M&A and alliances. For strengthening digital transformation and the Hakudo Network Service, the key policies are to fortify and expand the customer base and improve profitability by further developing the Hakudo Network Service while improving the digital platform to boost corporate value.

# Business

## Business model

### Overview

The company's business centers on vendor-managed inventory (VMI). The company buys non-ferrous materials (such as aluminum and copper) cuts them into standard sizes and shapes, and supplies them to customers in accordance with their specifications. The company carries approximately two months of inventory worth of standard stock items. One difference from other providers of VMI services lies in the company's extensive processing capabilities, allowing it to machine items to customer specifications. VMI arrangements typically work by suppliers and purchasers sharing inventory information. In Hakudo's case, purchaser's inventory information is based on customer order histories.

The company believes the factors that differentiate it from competitors include better product quality, and more attractive delivery times. The company's brand promise is "exceptional quality, speed and service at a satisfying price." The company places great importance on the quality of its materials and processing services, as well as on meeting the deadlines specified in its product catalogs. The company adds value with its inventory and processing functions.

### Performance fluctuations in tandem with market prices for key materials and changing customer demand

In the decade to FY03/22, revenue ranged from JPY22.1bn (FY03/13) to JPY55.4bn (FY03/22). Operating profit was between JPY1.4bn (FY03/13) and JPY4.3bn (FY03/22). Over this same period, OPM ranged from 4.0% (FY03/20) to 7.7% (FY03/22).

Performance fluctuates in line with changing market prices on the main materials the company handles (aluminum and copper) and volatility in demand from the customers who purchase these materials (such as manufacturers of semiconductor production equipment). As one example of this volatility, the company's performance declined in FY03/20 due to a downturn in economic activity resulting from the COVID-19 pandemic. In FY03/22, the market environment improved quickly, due to a rebound in non-ferrous metal prices and shortage of supply for semiconductor production equipment. Accordingly, the company experienced a healthy 41.4% YoY rise in revenue and a 114.7% YoY increase in operating profit for the year.

## Business overview

### Customers

The company's main customers are manufacturers of semiconductor production equipment, OA equipment, and other industrial machines. The company does not disclose sales by customer. Semiconductor production equipment uses large quantities of aluminum, whose corrosion resistance, machining accuracy, and low gas generation suit it to this application. Demand for semiconductor production equipment is rising, owing to a global semiconductor shortage. In FY03/21, aluminum accounted for 66% of the company's revenue.

Among Hakudo's customers are manufacturers of semiconductor production equipment (that use aluminum components in their vacuum chambers), precision instruments such as OA equipment, and various industrial machines.

Hakudo says it has 13,000 customer accounts; Shared Research assumes the actual number of active accounts is lower. The company has more than 10,000 customers registered to use its online Hakudo Network Service. Shared Research estimates that the company does business with around 10,000 customers per day, also including those that place orders by phone and fax (which the company explains tend to be special-order items). In FY03/22, revenue totaled JPY55.4bn. Assuming 250 business days a year, the average order size calculates to around JPY22,000. The company provides delivery services tailored to each customer's needs, regardless of order size, so orders are small compared with companies that handle steel products in bulk. Hakudo notes that a large-volume customer will generate around JPY2.0bn per year.

### Adding value through processing and maintaining standard stock items

Rather than selling purchased materials as is, the company cuts them into specific sizes and shapes (standard stock items) before selling them. Once placed in inventory, these items are valued at market prices. Transaction prices are based on

market prices at the time of sale, so the company can face valuation losses if market prices change while products are in inventory. Among its main materials, aluminum prices are updated every three months, while copper prices change daily. The company adjusts purchasing decisions based on market prices, inventory levels, and customer demand trends.

## Method for determining unit transaction prices

To determine transaction prices, the company starts with the market price of the target material. To this, it adds a trading company margin, processing fees, the customer's portion of shipping costs, and a margin based on customer payment conditions. If multiple pieces of aluminum materials are ordered, the price is calculated as follows.

First, the unit price is determined, based on the market price per weight of aluminum (JPY415,000/ton as of end-March 2022). Next, a customer-specific transaction price is calculated by taking into account various fees (including inventory costs), processing fees for parts and materials, the customer's purchase/payment history, and credit information. The unit price is then multiplied by the number of items. For similar companies that do not offer processing services, the transaction price is simply the market price of the raw material plus a trading company commission.

## Flow of business

Hakudo purchases non-ferrous materials from external suppliers and holds them in inventory (standard stock items). The company maintains around 5,300 standard stock items. Customers can also backorder items that the company does not keep in stock. Backorder items are those the company does not typically handle and whose volumes are too small to keep in inventory.

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## Purchasing

The company buys non-ferrous materials from specific suppliers in Japan. The material Hakudo buys the most of is aluminum, which it purchases from large companies such as UACJ Corporation (TSE Prime: 5741) and Nippon Light Metal Holdings Co., Ltd. (TSE Prime: 5703). Hakudo purchases copper from a range of Japanese and overseas manufacturers, such as Mitsubishi Materials Corporation (TSE Prime: 5711) in Japan. To diversify supply risk, the company does not limit its suppliers to specific companies, except in the case of specialized parts.

According to the Japan Aluminum Association, high electricity prices mean that Japanese production of primary aluminum ingots has not been cost-competitive since the two oil shocks the country faced in the 1970s. As a result, the country is entirely dependent on imports for new aluminum ingots. Japanese production centers on secondary (recycled) aluminum ingots, which are imported from overseas and processed in Japan into plates, extrusions, and foils. Processed aluminum materials are then supplied to manufacturers of final products such as transport equipment and construction-related equipment.

"Copper" products may include products made solely from copper or alloys containing zinc, tin, or nickel before being melted, cast, rolled, drawn, or forged into plates, tubes, bars, wires, or other shapes. The Japan Copper and Brass Association estimates FY2022 demand for products made from copper and copper alloys at 791,800 tons (+2.4% YoY).

Because it maintains standard stock items in inventory, the company can anticipate a certain level of steady sales from customers. It has no such relationships on the supply side, however, so has little negotiating power there. The company explains that it has established a stable supply system by purchasing from multiple sources.

## Inventory (processing of standard stock items)

The company classifies procured metal materials as "standard stock items." The company handles around 5,300 standard aluminum products, which are divided into shapes such as plates, bars, and tubes, and each has its own standard dimensions and thickness.

For aluminum products, the company purchases sheets, strips (coiled), rods, and tubes of aluminum alloy from manufacturers of these materials, and keeps them in inventory. Aluminum alloy plates in inventory (base material) tend to be around three



sqm in size. Processing and inventory management take place at five factories in Japan (in Fukushima, Saitama, Kanagawa, Shiga, and Kyushu; outlined below).

## Order receipt, sales

In general, the flow from order to shipment follows the steps below.

The company receives an estimate request or order via telephone, fax, e-mail, or online service. Order data is entered into the company's "comprehensive information system (proprietary computer system)" at the East Japan Customer Center, West Japan Customer Center, or each of its sales offices. Data is then sent to individual factories as shipment order forms. Bar codes are printed onto shipment order forms to ensure traceability.

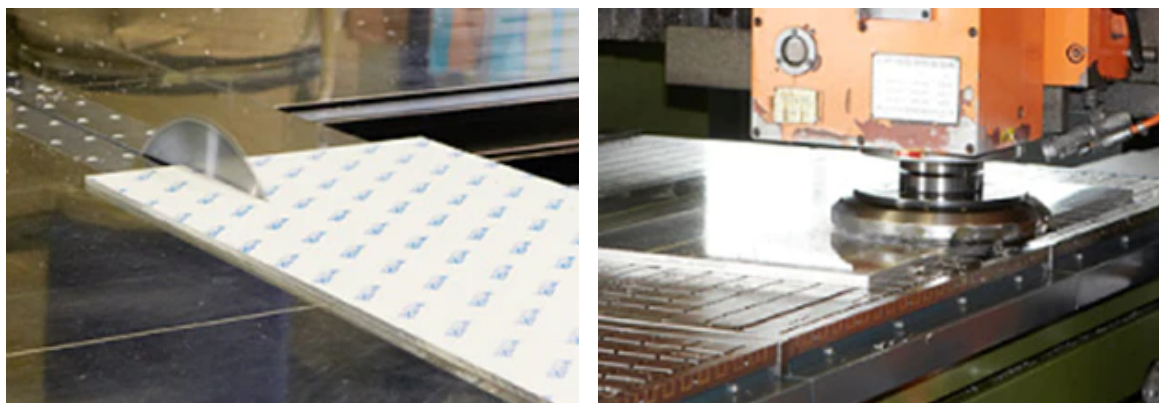
### Printing a shipment order form (factory)



Source: Company website

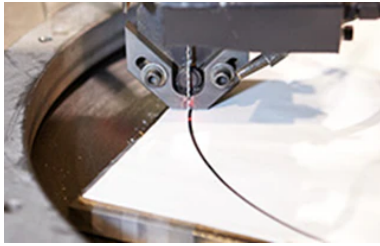
Depending on the order, cutting may be performed at the factory instructed to handle the shipment. Cutting takes place at five factories in Japan. The company has approximately 200 cutting machines (including circular saws, band saws, shears, and contour machines). The same five factories also handle milling (machining of complex shapes and drilling), using general-purpose and specialized machines (more than 200). Other processes include deform/machining, polishing, and chamfering.

### Machining processes (cutting, milling)

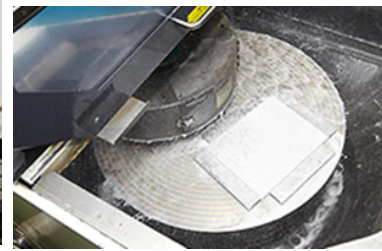


Source: Company website

## Contour machine processing machining



## machining rotary polishing



Source: Company website

After machining is complete, the product is inspected. Dimensions may be measured using 3D measuring instruments or manually, according to the customer's request. After inspection, the product is packaged for delivery. Packaging specifications vary depending on the variety, shape, and processing service. The company aims to provide the best packaging it can to maintain product quality. The company uses a barcode system to perform final checks on unloads and delivery addresses, and then delivers the goods quickly using its own trucks, route-based services, and in some cases, couriers.

## Shipment and delivery



Source: Company website

## Hakudo Network Service

This service accounts for around 80% of orders. Customers can login (or register as new users) via the Hakudo Network Service portal on the company's website. The system offers three types of entry mode: standard, simplified, and multiple detail. New customers and those unfamiliar with online ordering tend to choose the simplified mode, which is limited to standard products. The multiple detail entry mode allows customers to place orders involving detailed machining requests and attach Excel or CSV data, ordering up to 15 items at a time.

## Hakudo Network Service screens for orders and estimates

### Standard mode



### Simplified mode



### Multiple detail entry mode



Source: Company website

## Sales structure

Hakudo divides Japan into eight regions and has a sales office for each: the Sendai Sales Office (located in Sendai, Miyagi Prefecture, and responsible for the Hokkaido and Tohoku regions), the Takasaki Sales Office (located in Takasaki, Gunma Prefecture, and responsible for the Joetsu and Northern Kanto regions), the Tokyo Sales Office (located within headquarters and responsible for the Tokyo metro area), the Atsugi Sales Office (Atsugi, Kanagawa Prefecture), the Nagoya Sales Office (located in Nagoya, Aichi Prefecture, and responsible for the Tokai and Hokuriku regions), the Osaka Sales Office (located in Osaka and responsible for Wakayama Prefecture and the Kyoto/Osaka/Kobe region), the Hiroshima Sales Office (located in Hiroshima and responsible for the Chugoku and Shikoku regions, except for Yamaguchi Prefecture), and the Kyushu Sales Office (located in Tosu, Saga Prefecture, and responsible for the Kyushu region, including Yamaguchi Prefecture). Located within headquarters is the Sales Department of Special Order Products, which serves large manufacturing customers nationwide. The Sales Department of Standard Stock Products maintains two call centers, the East Japan Customer Center (Kawasaki) and the West Japan Customer Center (Osaka), as well as the Shizuoka Branch Office.

## Sales offices in Japan

Office	Location	Area covered
Sendai Sales Office	Sendai, Miyagi Prefecture	Hokkaido and Tohoku
Tokyo Sales Office	Chiyoda-ku, Tokyo	Tokyo metro
Takasaki Sales Office	Takasaki, Gunma Prefecture	Joetsu and Northern Kanto
Atsugi Sales Office	Atsugi, Kanagawa Prefecture	Southern Kanto and Chubu
Nagoya Sales Office	Nagoya, Aichi Prefecture	Tokai and Hokuriku
Osaka Sales Office	Osaka	Wakayama Prefecture, Kyoto/Osaka/Kobe
Hiroshima Sales Office	Hiroshima	Chugoku and Shikoku (excl. Yamaguchi Prefecture)
Kyushu Sales Office	Tosu, Saga Prefecture	Kyushu (incl. Yamaguchi Prefecture)

Source: Shared Research based on company data

## Factories in Japan

The company has five factories in Japan.

- ▶ Fukushima Factory (Koriyama, Fukushima Prefecture): Has grinding/polishing and machining equipment and conducts these processing for the company.
- ▶ Saitama Factory (Kazo, Saitama Prefecture): Mainly handles cut-to-length stock, extruded aluminum, copper pipe, and shaped copper and stainless steel (rectangular bars and small-diameter rods).
- ▶ Kanagawa Factory (Atsugi, Kanagawa Prefecture): This center has the largest product lineup in the Hakudo group, as well as the largest inventory and shipping volumes. This center functions as a core factory for the group, working to increase the quality of products the group handles and augment the group's technologies.
- ▶ Shiga Factory (Gamo-gun, Shiga Prefecture): This factory handles a diverse lineup of products. The factory maintains inventories of aluminum plates ranging in thickness from 1mm to 350mm and cuts/machines this stock to customer requirements. The facility has water-jet cutting and machining equipment.

- ▶ **Kyushu Factory (Tosu, Saga Prefecture):** At this location, the company focuses on maintaining close ties with local businesses, working alongside salespeople to reflect customer feedback in its product quality, technologies, and services.

## Factories (“process centers”) in Japan

Factory	Location	Characteristics
Fukushima Processing Center	Koriyama, Fukushima Prefecture	Polishing and machining equipment
Saitama Processing Center	Kazo, Saitama Prefecture	Cut-to-length board, extruded aluminum, copper pipe, copper, stainless steel
Kanagawa Processing Center	Atsugi, Kanagawa Prefecture	Group’s largest product lineup and inventory/shipping volumes
Shiga Processing Center	Gamo-gun, Shiga Prefecture	Large stock of aluminum plates, water-jet cutting and machining equipment
Kyushu Processing Center	Tosu, Saga Prefecture	Close ties to the local businesses

Source: Shared Research based on company data

## Overseas locations

In China, the company has its own inventory and processing centers with sales offices in Guangzhou and Tianjin, as well as a consolidated subsidiary in Shanghai (Shanghai Hakudo Precision Materials Co., Ltd.). In Thailand, Hakudo has a subsidiary, Hakudo (Thailand) Co., Ltd, as well as a local partner, Fujimaki Steel (Thailand) Co., Ltd. In other ASEAN countries, the company is collaborating with local partners in Vietnam (Oristar Corporation), Malaysia (PHH Special Steel SDN BHD), and Indonesia. It also has established a representative office in Vietnam. The table below indicates the company’s overseas locations.

## Overseas locations

Country		
China	Subsidiary	Shanghai Hakudo Precision Materials Co., Ltd.
	Location	Shanghai, China
Thailand	Subsidiary	Hakudo (Thailand) CO., LTD.
	Location	Bangkok, Thailand
	Local partner	Fujimaki Steel (Thailand) Co., Ltd.
Vietnam	Rep office	The Representative Office of Hakudo Co., Ltd. in Ho Chi Minh City
	Local partner	ORISTAR CORPORATION
Malaysia	Local partner	PHH SPECIAL STEEL SDN BHD

Source: Shared Research based on company data

## Process for determining transaction prices

The company refers to market prices at the time of transaction to calculate transaction prices. A problem can arise due to a gap between the market price of the product at the time of sale and the price at which the original material was purchased. In particular, the company may face a loss if the market price of the material declines (the risk of holding items in inventory). When market prices are rising, transaction prices are based on the most recent market price, so marginal gains may occur. When market prices are falling the mechanism for determining transaction prices results in a net loss.

The company does not adjust purchases based on market trends, unless it is certain that transaction prices will rise or fall. However, the company minimizes marginal losses through efficient processing (minimizing the amount of scrap generated when processing standard products) and by offering selling prices that take credit information (based on customers’ payment histories) into account. The company uses an integrated information system (which it calls the “proprietary computer system”) to manage information centrally. The company uses this system to direct operations related to inventory, adjusting stock levels to meet assumed demand and minimize differential losses.

## Product lines

As of end-FY03/22, the company catalog listed 32,700 items for sale, including standard stock items and backorder items. The main items are described below.

### Standard stock items

These are items the company keeps in stock at its factories around Japan. Currently, the company maintains 5,300 standard stock items. Cover images of the product catalogs (standard stock items) on the company website are shown below. The English version was published in 2018; the Japanese version is from 2021.

## Catalogs of standard stock items (English on the left, Japanese on the right)



Source: Company website

Hakudo explains that its standard stock items benefit customers in six ways. First, the lineup is extensive. The company specializes in non-ferrous metals such as aluminum and copper, as well as stainless steel, titanium, specialty steels and plastic materials, and provides processed industrial materials. The company offers around 5,300 standard products.

The second advantage is the ability to fill small-lot orders. The company machines materials based on a single plate, piece, or gram to the customer's desired size and shape, and delivers products throughout Japan. The company's policy is to cut and process small materials down to 5 x 5mm to the exact dimensions specified by the customer, and deliver the required quantity as soon as the next business day.

The third advantage is quick response. From customer centers located in eastern and western Japan, the company responds quickly to quotations, orders, and inquiries via fax, phone, e-mail, and online. In sales, the company has a policy of not keeping the customer waiting. Professional staffers at customer centers using leading-edge IT systems provide prompt quotes on both standard stock items and special-order items.

The fourth advantage is quick delivery. The company maintains inventory and processing centers ("factories") at five locations across Japan, and can deliver products as soon as the day after it receives an order. The company has a system in place to ship orders to customers from each center by the most appropriate means, depending on delivery distance and inventory status.

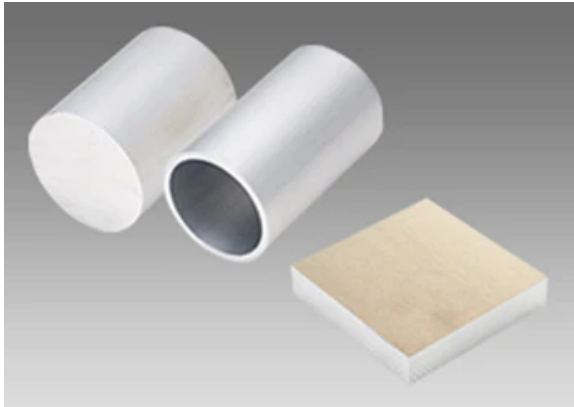
The fifth advantage is the wide variety of machining options. In addition to cutting products to customer-specified dimensions, the company offers milling and polishing services for all products in its inventory. The company provides 34 types of cutting and processing methods to offer products with the shape and accuracy desired by customers. The company is capable of cutting various shapes (squares, circles, and rings), milling and polishing to specified dimensions in increments of 0.1mm, and machining shaped parts using machining centers and water jet cutting machine.

The sixth advantage is high-precision machining. For its milling and polishing processes, the company guarantees accuracy in terms of thickness, width, length, squareness, angularity, and flatness. The company has installed the latest equipment, including specially designed high-precision milling machines and machining centers, to meet the demands of its customers. The company is also researching and seeking to improve its machining processes and inspection methods to further increase machining accuracy.

## Items handled (standard stock items)

### Aluminum

Aluminum products (standard stock items on the left and backorder items on the right)



Source: Company website

Standard aluminum stock items are classified broadly by shape (plates, bars, and tubes), and then classified further in terms of size and material.

The example below is a catalog entry for a standard stock item. "A1050" is a standard 1000 grade aluminum (pure aluminum), 99.5% pure aluminum sheet (1,000mm by 2,000mm), commonly referred to as "meter sheet\*." Catalog entries are listed by size.

Catalog listing of "A1050" aluminum plate item (English at left, Japanese at right)

Plate thickness 板厚 (mm)	Uncut material width × length 新材寸法 巾×長さ(mm)	Plate thickness tolerance 板厚公差 (mm)	Temper 調質	Manufacturing method 製造方法	Protective vinyl 保護 ビニール
0.5※	1000×2000	±0.06	H24	Cold rolling 冷間圧延	None なし
1	//	±0.08	//	//	//
1.2	//	±0.10	//	//	//
1.5	//	//	//	//	//
2	//	//	//	//	//
3	//	±0.13	//	//	//
4	//	±0.20	//	//	//
5	//	±0.23	//	//	//

板厚(ミリ)	新材寸法 巾×長さ(ミリ)	板厚公差 JIS規格(ミリ)	質別	製造方法	1枚重量(kg)	保護 ビニール	加工区分 在庫工場
0.5	1000×2000	±0.06	H24	冷間圧延	2.72	なし	○
1	//	±0.08	//	//	5.44	//	○
1.2	//	±0.10	//	//	6.53	//	○
1.5	//	//	//	//	8.16	//	○
2	//	//	//	//	10.88	//	○
3	//	±0.13	//	//	16.32	//	○
4	//	±0.20	//	//	21.76	//	○
5	//	±0.23	//	//	27.20	//	○

Source: Company website

The Japanese version (but not the English version) indicates the weight per sheet (kg) and uses color to show which of the company's five factories produces and stocks the product.

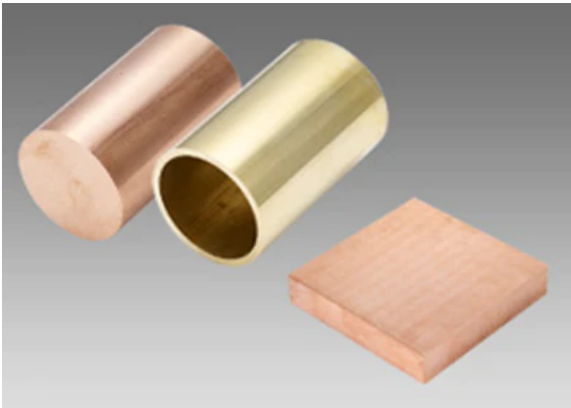
\* "Meter sheet" refers to a type of cut-to-length stock measuring 1,000mm by 2,000mm.

The main types of steel plate and plate-metal materials used in precision plate metal and plate-metal processing are distributed in the market as cut-to-length stock of specific dimensions. Typical plate sheet sizes are 3 x 6 (914mm x 1,829mm), 3 x 8 (914mm x 2,438mm), and 5 x 8 (1,524mm x 2,438mm). These standard sizes are generally not used for stainless steel, aluminum, copper, and brass plate. Instead, these materials are typically found in "meter sheet" dimensions (1,000mm x 2,000mm), which are not used for steel sheet.

The 4 x 8 size (1,219mm x 2,438mm) is generally used for steel, stainless steel, aluminum, copper, and brass plate. This size of material is used to make large plate metal products, for which 3 x 6 and 1 x 2 sizes would be too small. The 5 x 10 size (1,524mm x 3,048mm) is also used for steel plate but generally not for copper or brass plate.

## Copper products

Copper products (standard stock items at left, backorder items at right)



Source: Company website

The company lineup also includes copper plates, bars, and tubes. Due to its high electrical and thermal conductivity, durability, and color, copper is used in a wide range of applications. Copper is frequently used in air conditioning (copper pipes) and electronic components (semiconductor lead frames). Standard stock items are categorized broadly into plates, bars, and tubes, and further classified according to size and material quality.

The following example is a product called “chrome copper round bar,” which is an alloy of copper and chrome with extremely high electrical conductivity and hardness. It has excellent wear resistance at high temperatures and good toughness due to its uniform microstructure. This product is mainly used for welding electrode materials, electrode materials, cooling parts for connector equipment, die-casting molds, and various machine parts (parts requiring thermal conductivity and electric conductivity).

Catalog listing for “chrome copper round bar” (English at left, Japanese at right)

Diameter (mm)	Uncut material length 新材寸法 長さ(mm)	Diameter tolerance 直径公差 (mm)	Temper 調質	Manufacturing method 製造方法
6 <sup>※</sup>	1000	±0.06	HT	Cold drawing 冷間引張
8 <sup>※</sup>	〃	〃	〃	〃
10	〃	〃	〃	〃
12	〃	±0.08	〃	〃
13	〃	〃	〃	〃
16	〃	〃	〃	〃
20	〃	〃	〃	〃
22	〃	〃	〃	〃
25	2000	±0.10	〃	〃
30	〃	〃	〃	〃
32	〃	〃	〃	〃
35	〃	〃	〃	〃
40	1000	±0.20	〃	Hot forged scalping 熱間鍛造面削
45	〃	〃	〃	〃
50	〃	〃	〃	〃
55	〃	〃	〃	〃

Diameter (mm)	Uncut material length 新材寸法 長さ(mm)	Diameter tolerance 直径公差 (mm)	Temper 調質	Manufacturing method 製造方法
60	1000	±0.20	HT	Hot forged scalping 熱間鍛造面削
70	〃	〃	〃	〃
80	〃	〃	〃	〃
90	〃	〃	〃	〃
100	〃	〃	〃	〃

※ refers to product sizes in which cutting to the desired dimensions is possible, but for which any remaining materials must also be purchased.  
※は、寸法切のサイズ寸法に加工は可能ですが、残材も購入いただくサイズです。  
\*T for temper denotes an age hardening treatment.  
調質のTは、時効硬化処理を表します。

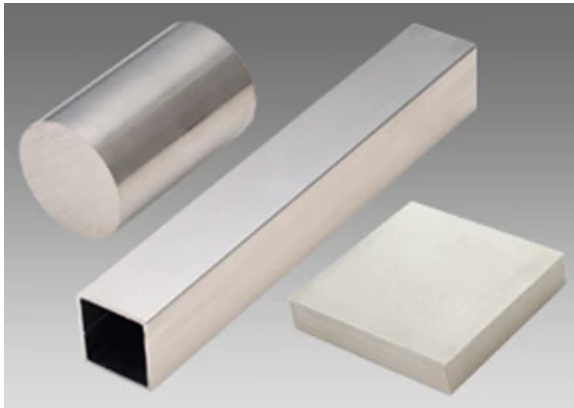
直径 (ミリ)	新材寸法 長さ (ミリ)	直径公差 当社規格 (ミリ)	調質	製造方法	長さ1メートルあたり 重量 (kg)	加工区分 在庫工場
6	1000	±0.06	HT	冷間引張	0.26	○
8	〃	〃	〃	〃	0.45	○
10	〃	〃	〃	〃	0.70	●
12	〃	±0.08	〃	〃	1.01	●
13	〃	〃	〃	〃	1.18	●
16	〃	〃	〃	〃	1.79	●
20	〃	〃	〃	〃	2.80	●
22	〃	〃	〃	〃	3.38	●
25	2000	±0.10	〃	〃	4.37	●
30	〃	〃	〃	〃	6.29	●
32	〃	〃	〃	〃	7.15	●
35	〃	〃	〃	〃	8.56	●
40	1000	±0.20	OT	熱間面削	11.18	●
45	〃	〃	〃	〃	14.14	●
50	〃	〃	〃	〃	17.46	●
55	〃	〃	〃	〃	21.13	●
60	〃	〃	〃	〃	25.14	●
70	〃	〃	〃	〃	34.22	●
80	〃	〃	〃	〃	44.69	●
90	〃	〃	〃	〃	56.56	●
100	〃	〃	〃	〃	69.83	●

Source: Company website

As with aluminum, the Japanese version of the catalog (but not the English version) indicates the weight per sheet (kg) and uses color to show which of the company's five factories produces and stocks the product.

## Stainless steel

Stainless steel products (standard stock items at left, backorder items at right)



Source: Company website

“Rust-resistant iron” is made by adding nickel, chrome, or other substances to iron. Due to its rust resistance, this material is often used in food machinery and kitchen equipment, as well as for decorative piping for railings and monuments. The material is finding growing use in machine parts, and the company believes demand will increase further as new applications for the material are developed.

The following example is a catalog entry for structural stainless steel extruded pipe. The material is called “304 seamless round pipe (TKA)” TKA refers to mechanical-structural stainless steel pipe. In machined items, this product is used as thick-walled pipe (such as pipe made from hollowing out round stock or sheet materials).

Catalog entry for seamless round stainless-steel pipe (English at left, Japanese at right)

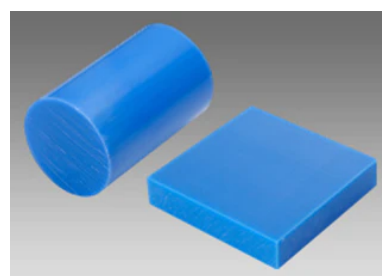
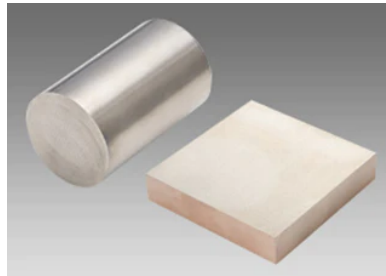
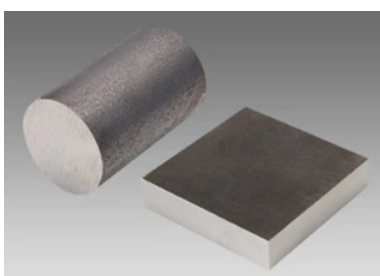
■ Size of products in inventory		在庫品目サイズ		Outside diameter		Uncut material		Outside diameter		Wall thickness		Manufacturing	
Outside diameter	Wall thickness	Uncut material length	Outside diameter tolerance	Wall thickness tolerance	Manufacturing method	Outside diameter	Wall thickness	Uncut material length	Outside diameter tolerance	Wall thickness tolerance	Manufacturing method	Outside diameter	Wall thickness
外径×肉厚	肉厚公差	素材寸法	外径公差	肉厚公差	製造方法	外径×肉厚	肉厚公差	素材寸法	外径公差	肉厚公差	製造方法	外径×肉厚	肉厚公差
46 × 10	±0.80	2100	-1.25 to +1.50	±1.50	Hot extrusion	190 × 20	±1.50	2100	-1.88 to +2.25	±1.50	Hot extrusion	46 × 10	±0.80
50.8 × 14.5	#	#	-1.81 to +2.18	#	#	200 × 15	#	#	-1.88 to +2.25	#	#	50.8 × 14.5	#
56 × 13.8	#	#	-1.73 to +2.07	#	#	#	#	#	#	#	#	56 × 13.8	#
67 × 14.5	#	#	-1.81 to +2.18	#	#	#	#	#	#	#	#	67 × 14.5	#
71 × 18	#	#	-2.25 to +2.70	#	#	#	#	#	#	#	#	71 × 18	#
82 × 15	#	#	-1.88 to +2.25	#	#	#	#	#	#	#	#	82 × 15	#
92 × 16.8	#	#	-2.10 to +2.52	#	#	#	#	#	#	#	#	92 × 16.8	#
100 × 10	#	#	-1.25 to +1.50	#	#	#	#	#	#	#	#	100 × 10	#
101 × 18	#	#	-2.25 to +2.70	#	#	#	#	#	#	#	#	101 × 18	#
112 × 19	#	#	-2.38 to +2.85	#	#	#	#	#	#	#	#	112 × 19	#
123 × 13	#	#	-1.63 to +1.95	#	#	#	#	#	#	#	#	123 × 13	#
131 × 26	#	#	-3.25 to +3.90	#	#	#	#	#	#	#	#	131 × 26	#
140 × 30	#	#	-3.75 to +4.50	#	#	#	#	#	#	#	#	140 × 30	#
150 × 12.5	#	#	-1.56 to +1.88	#	#	#	#	#	#	#	#	150 × 12.5	#
160 × 20	#	#	-2.50 to +3.00	#	#	#	#	#	#	#	#	160 × 20	#
170 × 26	#	#	-3.25 to +3.90	#	#	#	#	#	#	#	#	170 × 26	#

We offer two types of JIS compliant products, those that are JIS certified and those for which the manufacturer guarantees equivalent quality. If you are interested in JIS certified products, please contact us. 本製品はJIS規格に準拠した商品と、製造メーカーが同等の品質を保証した商品があります。JISの認証を受けた商品をご希望の場合は、お問い合わせください。

■ 在庫品目サイズ						
外径×肉厚	新材寸法	外径公差	肉厚公差	製造方法	長さ1メートル当り	加工区分
(ミリ)	長さ(ミリ)	JIS規格(ミリ)	JIS規格(ミリ)		重量(kg)	在庫品
46 × 10	2100	±0.80	-12.5%~+15%	熱間押出	8.97	●
50.8 × 14.5	#	#	#	#	13.11	●
56 × 13.8	#	#	#	#	14.51	●
67 × 14.5	#	±1.00	#	#	18.97	●
71 × 18	#	#	#	#	23.77	●
82 × 15	#	#	#	#	25.04	●
92 × 16.8	#	±1.20	#	#	31.47	●
100 × 10	#	#	#	#	22.42	●
101 × 18	#	#	#	#	39.86	●
112 × 19	#	#	#	#	37.22	●
123 × 13	#	#	#	#	44.02	●
131 × 26	#	#	#	#	35.63	●
140 × 30	#	#	#	#	68.01	●
150 × 12.5	#	±1.30*	#	#	82.21	●
160 × 20	#	#	#	#	42.82	●
170 × 26	#	#	#	#	69.76	●
190 × 20	#	±1.50*	#	#	93.27	●
200 × 15	#	#	#	#	84.71	●
					69.14	●

Source: Company website

## Other products (ordinary steel, specialty steel, titanium, plastic)



Source: Company website

Hakudo 7637



Ordinary and specialty steels are made by adding carbon and other substances to iron to increase its hardness. The company offers a wide variety of products for different applications. Traditionally used for knives and tools, in recent years these materials have also been used for molds that require hardness (ultra-precision molds for IT-related products).

Titanium is lighter, stronger, and more corrosion-resistant than other metals. It has a wide range of applications, including in the aerospace industry.

The company handles a wide variety of plastic materials, from general-purpose plastics (PVC, acrylic) to engineering plastics. Engineering plastics, which have enhanced hardness and resistance to heat and chemicals, are used in a wide range of applications because they have the advantage of being lighter than metals.

## Backorder items and special-order items

Standard stock items are held in stock at company factories. Alongside these items, customers can place orders for backorder and special-order items, which Hakudo may then order from other companies. Hakudo's management costs on these items are lower, as it buys them from other suppliers rather than processing them in house. Also, they carry no inventory costs. For these reasons, Hakudo includes other companies' inventory in its own product catalogs. Some 27,400 items are available for order via the Hakudo Network Service. Hakudo also encourages other companies in the industry to sell their products via this online site.

The company also handles special-order items, which are manufactured in collaboration with various material and parts manufacturers. In this category, the company offers aerospace-standard materials, custom mold bases, aluminum extrusion molds, custom-molded parts, castings, and forgings. The company also provides contract machining services.

The catalog also includes standard stock, backorder, and special-order items in various fields, in aerospace-standard, metal, and plastic materials.

## Catalog of backorder and special-order items (Japanese only)



Source: Company website

## Product shipping and delivery

The company has a regular truck delivery service that it uses for the domestic market. The company also uses other trucking or parcel delivery services when delivery timing does not coincide with its regularly scheduled routes. To develop its nationwide sales and logistics network, the company requires detailed knowledge of the locations of customers' factories and other facilities. Accordingly, the company commonly uses local transporters who are familiar with the local geography.

The company uses ship or air transport to send products overseas. According to the company, its arrangements can reduce overseas transport by as much as six days compared with other companies' export methods. (The company calculates this savings by cutting the time to provide a quotation from two–three days to one or on the same day, shortening packaging time from three–four days to one, and shipping on the same day rather than on the following day.)

# Customers

## Customer accounts

The company does not disclose the exact number of customer accounts or sales results by customer. However, the company's customer accounts numbered around 13,000 as of FY03/21, and more than 9,000 of these were for companies registered to use the Hakudo Network Service. Hakudo handles around 20,000 inquiries and invoice requests each day (total for phone, fax, email, and online). According to the company, online inquiries are increasing.

According to the company, about half of quotations lead to actual orders (the order rate). This factors in some degree of duplication with quotations. The transaction price is often cited as the reason for not placing an order. The company explains that it uses prevailing market prices as the starting point for setting transaction prices. It then works to convince the customer by presenting quotations in terms that match customer characteristics (necessary transportation method, payment method, and credit conditions).

## Customers by industry

Aluminum is the material Hakudo handles most frequently. The company's main customers are manufacturers of semiconductor production equipment and related items. In FY03/22, these manufacturers accounted for about 45% of domestic revenue. While the company's products are supplied to component manufacturers, end customers include Tokyo Electron Ltd. (TSE Prime: 8035), ULVAC, Inc. (TSE Prime: 6728), and SCREEN Holdings Co., Ltd. (TSE Prime: 7735). Semiconductor production equipment has been in high demand since 2H FY03/21, due to a semiconductor shortage. As a result, this customer category has grown, to currently account for around 40% of revenue.

Demand for aluminum plate is high in the semiconductor production equipment industry. Aluminum alloy components are often used in semiconductor production equipment, such as vacuum chambers themselves, various parts in the chambers, and internal transport systems.

Aluminum is lightweight and offers corrosion resistance, machining accuracy, and low gas generation. Because of these characteristics, the company's aluminum materials are in demand from large Japanese manufacturers of semiconductor and LCD manufacturing equipment, as well as from overseas manufacturers of semiconductor production equipment.

Demand for semiconductor production equipment is expected to remain strong due to the shortage of semiconductors and the need to manage associated manufacturing risks. As a result, the company believes these manufacturers will be an important customer category for the foreseeable future. Meanwhile, greater semiconductor mounting density is driving the need for higher-precision products and more stringent delivery conditions. In response, the company is developing its own high-spec series of products with improved flatness and precision.

Manufacturers of OA equipment and other industrial machinery are another important customer segment. Large manufacturers of OA equipment, such as Canon Inc. (TSE Prime: 7751) and Ricoh Company, Ltd. (TSE Prime: 7752) are major customers. The standard stock items the company carries track trends in machine tool orders.

## Business overview by segment

By segment (JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
	Act.	Act.	Act.	Act.	Act.	Act.	Act.	Act.	Act.	Act.
<b>Revenue</b>	<b>22,151</b>	<b>25,571</b>	<b>29,923</b>	<b>32,461</b>	<b>34,627</b>	<b>43,709</b>	<b>45,228</b>	<b>41,798</b>	<b>39,219</b>	<b>55,441</b>
YoY	-7.1%	15.4%	17.0%	8.5%	6.7%	26.2%	3.5%	-7.6%	-6.2%	41.4%
Japan	21,328	24,580	28,675	31,103	33,227	41,983	43,339	40,069	37,345	52,839
YoY	-7.1%	15.3%	16.7%	8.5%	6.8%	26.4%	3.2%	-7.5%	-6.8%	41.5%
% of total	96.3%	96.1%	95.8%	95.8%	96.0%	96.1%	95.8%	95.9%	95.2%	95.3%
China	823	991	1,242	1,168	1,130	1,349	1,306	1,132	1,364	1,719
YoY	-6.3%	20.3%	25.4%	-5.9%	-3.3%	19.4%	-3.2%	-13.3%	20.5%	26.1%
% of total	3.7%	3.9%	4.2%	3.6%	3.3%	3.1%	2.9%	2.7%	3.5%	3.1%
Other			6	190	270	377	582	597	511	882
YoY	-	-	-	-	42.2%	39.6%	54.5%	2.5%	-14.4%	72.6%
% of total	0.0%	0.0%	0.0%	0.6%	0.8%	0.9%	1.3%	1.4%	1.3%	1.6%
<b>Segment profit</b>	<b>826</b>	<b>1,073</b>	<b>1,416</b>	<b>1,184</b>	<b>1,414</b>	<b>2,013</b>	<b>1,579</b>	<b>1,155</b>	<b>1,284</b>	<b>2,964</b>
YoY	5.8%	29.8%	31.9%	-16.3%	19.4%	42.3%	-21.5%	-26.8%	11.2%	130.8%
Operating profit margin	3.7%	4.2%	4.7%	3.6%	4.1%	4.6%	3.5%	2.8%	3.3%	5.3%
Japan	833	991	1,301	1,124	1,373	1,968	1,564	1,158	1,236	2,828
YoY	1.6%	19.0%	31.3%	-13.5%	22.1%	43.4%	-20.5%	-26.0%	6.8%	128.8%
Operating profit margin	3.9%	4.0%	4.5%	3.6%	4.1%	4.7%	3.6%	2.9%	3.3%	5.4%
% of total	100.8%	92.4%	91.9%	94.9%	97.0%	97.8%	99.1%	100.3%	96.3%	95.4%
China	-7	82	121	76	46	32	-16	-23	30	73
YoY	-	-	47.1%	-37.0%	-39.7%	-29.4%	-	-	-	147.0%
Operating profit margin	-	8.3%	9.7%	6.5%	4.1%	2.4%	-	-	2.2%	4.3%
% of total	-0.8%	7.6%	8.5%	6.4%	3.2%	1.6%	-1.0%	-2.0%	2.3%	2.5%
Other			-6	-16	-4	13	31	19	18	62
YoY	-	-	-	-	-	-	144.5%	-37.1%	-8.9%	249.5%
Operating profit margin	-	-	-	-	-	3.3%	5.3%	3.2%	3.4%	7.0%
% of total			-0.4%	-1.3%	-0.3%	0.6%	1.9%	1.7%	1.4%	2.1%

Source: Shared Research based on company data

The company reports segment information by geographic location. In FY03/21, Japan accounted for 95.2% of revenue. In addition, the company derives its revenue from China and other locations mainly from Japanese manufacturers doing business overseas; most of the company's customers are Japanese.

### Japan

For the past 10 years, the Japan segment has consistently accounted for more than 95% of the company's sales. The company does not disclose data by customer. However, it supplies non-ferrous metal products to industrial equipment manufacturers and peripheral manufacturers. Of these, the company's main customers are manufacturers of precision instruments (semiconductor production and OA equipment). In FY03/21, demand for semiconductor production equipment increased due to a global semiconductor shortage. Typically, manufacturers of semiconductor and LCD production equipment in the past accounted for around 20% of the company's revenue. In FY03/22, however, the figure reached 45%. Aluminum plate is widely used in semiconductor production equipment, which has pushed up Hakudo's handling volume of this material.

### China

This segment accounts for around 3% of revenue, or about JPY1.7bn for FY03/22. Main clients in this segment are Japanese companies doing business in China. The company transports products to these customers from Japan, by sea or air.

### Others

The segment sells to the ASEAN region. As with China, sales are mainly to Japanese companies doing business locally.

# Market and value chain

“Non-ferrous metal” is a catch-all term for metals other than iron. The reason for this classification is that iron is used in overwhelmingly greater quantities. There are many types of non-ferrous metals, each with different properties, but they can be broadly classified into three categories: base metals, precious metals, and rare metals. Non-ferrous metals are also added to steel to significantly change and improve its properties. Non-ferrous metals can be used on their own or as alloys with other non-ferrous metals.

## Production of non-ferrous metals

Base metals are those that are produced in large quantities and for which large reserves exist. They are widely used in industrial materials and everyday items. Iron is also a base metal. Aluminum and copper are major non-ferrous base metals. Precious metals (such as gold, silver, and platinum) are used for jewelry, but they are also widely used as industrial materials. Rare metals (such as lithium, titanium, and nickel) are scarce, either because few reserves exist or because they are difficult to mine or extract.

The company mainly handles non-ferrous metals that are used in large quantities (mainly aluminum and copper). In FY03/22, aluminum accounted for 65.6% of handling volume, copper for 13.5%, stainless steel for 15.9%, and other materials including specialty steels for 5.0%.

## Aluminum

High demand for aluminum stems from its numerous physical characteristics. For one, aluminum’s specific gravity is 2.7, which is about one-third that of iron (7.8) and copper (8.9). Aluminum’s strength doubles when other elements are added to form an alloy, hence increasing its specific strength. Even alloys of aluminum have approximately the same specific gravity as aluminum, as only small amounts of other elements are added. When exposed to air, aluminum forms a strong and stable oxide film, providing excellent corrosion resistance. Corrosion resistance can be improved further by anodizing, which artificially creates an oxide film. High ductility makes aluminum suitable for plastic working. It has a low melting point (660°C), which can be reduced further by eutectic alloying. This characteristic and its good flowability make aluminum suitable for casting.

Aluminum has high electrical and thermal conductivity. For the same mass, aluminum has twice the electrical conductivity of copper and three times the thermal conductivity of iron. Aluminum reflects more than 90% of radiant energy and has high light and heat reflectance. As its color resembles white, aluminum need not be painted. Being non-toxic, it can be used for packaging daily necessities, food, and medicine. Aluminum is non-magnetic and has excellent vacuum characteristics (low gas release rate even in vacuum). For this reason, aluminum is widely used in semiconductor production and LCD manufacturing equipment, which require some production processes to be conducted in a vacuum state. Aluminum is also highly recyclable; only 3% as much energy is needed to re-melt and recycle used products as is used in electrolytic refining.

Aluminum market prices are updated every three months.

## Aluminum prices

(JPY'000/MT)	2018				2019							
	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec				
Aluminum ingots	219	246	227	216	208	190	188	193				
(JPY'000/MT)	2020				2021				2022			
	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec
Aluminum ingots	173	169	184	209	238	269	312	306	415			

Source: Shared Research based on World Bank data

## Copper

Copper is widely used in electrical and electronic products due to its excellent thermal conductivity, electrical conductivity, workability, and ductility. “Copper” products may include products made solely from copper or alloys containing zinc (brass), tin and phosphorous (phosphor bronze), or nickel and zinc (nickel silver) before being melted, cast, rolled, drawn, or forged into plates, tubes, bars, wires, or other shapes.

Market prices for copper are updated daily.

## Electrolytic copper prices

(JPY'000/MT)	2017				2018				2019			
	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec
Electrolytic copper price	704	674	774	810	766	810	718	727	759	677	658	705
(JPY'000/MT)	2020				2021				2022			
	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec
Electrolytic copper price	606	659	750	848	1,022	1,111	1,079	1,128	1,264			

Source: Shared Research based on data from the Japanese Electric Wire & Cable Makers' Association

## Stainless steel

Stainless steel is a rust-resistant alloy consisting mainly of iron (more than 50%) and containing more than 10.5% chromium. In addition to being corrosion resistant, stainless steel offers heat resistance, workability, strength, and other characteristics, as well as being easy to maintain. It is also 100% recyclable.

When added to iron, the chromium combines with oxygen to form a thin protective film (passive film) on the surface of the steel. This passive film helps prevent rust. Although this film is thin (3 millionths of a millimeter), it is tough. If the film is broken, it regenerates automatically in the presence of oxygen.

Stainless steel is used in a wide range of applications, from general home applications to the nuclear power and space development sectors. Stainless steel can also be selected to match various performance requirements, such as corrosion resistance, heat resistance, strength, and formability.

Stainless steel prices are determined by negotiation between buyer and seller whenever manufacturers revise their prices.

## Stainless steel prices

(JPY'000/MT)	2017				2018				2019			
	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec
Stainless steel sheet	330	330	330	330	350	360	360	360	355	350	350	360
(JPY'000/MT)	2020				2021				2022			
	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec	End-Mar	End-Jun	End-Sep	End-Dec
Stainless steel sheet	360	360	360	360	380	400	420	450	500			

Source: Shared Research based on data from the Japan Metal Daily

## Key customer trends

The company's main customers are manufacturers of semiconductor production equipment, OA equipment, and other industrial equipment. A shortage of semiconductors and the uneven distribution of manufacturing locations have become a problem, and the global system of semiconductor production is being reconfigured as a result. Consequently, the company expects demand for semiconductor fabrication equipment to grow steadily for the foreseeable future. In relation to other equipment, orders for the company's standard stock items tend to track orders for machine tools. In the category of industrial machinery, demand for non-ferrous materials is growing in line with efforts to reduce environmental impact.

## Demand for semiconductor production equipment

Japan-based equipment sales (JPYbn)	Act.										Forecast			CAGR
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021F	2022F	2023E	
Semiconductor production equipment	1,263.7	1,028.4	1,127.8	1,292.1	1,308.9	1,564.2	2,043.6	2,247.9	2,073.0	2,383.5	3,356.7	3,550.0	3,700.0	
FPD production equipment	325.0	208.9	348.5	271.7	299.3	485.7	491.6	536.4	475.8	463.8	470.0	480.0	500.0	
Total	1,588.7	1,237.3	1,476.3	1,563.8	1,608.2	2,049.9	2,535.2	2,784.3	2,548.8	2,847.3	3,826.7	4,030.0	4,200.0	
YoY														
Semiconductor production equipment	1.8%	-18.6%	9.7%	14.6%	1.3%	19.5%	30.6%	10.0%	-7.8%	15.0%	40.8%	5.8%	4.2%	
FPD production equipment	-15.4%	-35.7%	66.8%	-22.0%	10.2%	62.3%	1.2%	9.1%	-11.3%	-2.5%	1.3%	2.1%	4.2%	
Total	-2.3%	-22.1%	19.3%	5.9%	2.8%	27.5%	23.7%	9.8%	-8.5%	11.7%	34.4%	5.3%	4.2%	13.8%

Source: Shared Research based on data from Semiconductor Equipment Association of Japan

## Machine tool demand

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total order value	1,212,445	1,117,049	1,509,397	1,480,592	1,250,003	1,645,554	1,815,771	1,229,900	901,835	1,541,419
YoY	91.4%	92.1%	135.1%	98.1%	84.4%	131.6%	110.3%	67.7%	73.3%	170.9%
Domestic demand	375,822	400,803	496,391	586,240	530,545	629,369	750,343	493,188	324,455	510,324
YoY	89.1%	106.6%	123.8%	118.1%	90.5%	118.6%	119.2%	65.7%	65.8%	157.3%
Overseas demand	836,623	716,246	1,013,006	894,352	719,458	1,016,185	1,065,428	736,712	577,380	1,031,095
YoY	92.5%	85.6%	141.4%	88.3%	80.4%	141.2%	104.8%	69.1%	78.4%	178.6%

Source: Shared Research based on data from the Japan Machine Tool Builders' Association

# Main competitors

Hakudo is a trading company specializing in non-ferrous metals (aluminum, copper, and stainless steel) and handling plastics and other metals. One competitor category is sales companies affiliated with materials manufacturers that maintain trading company functions. Examples include Nippon Steel Trading Corporation (TSE Prime: 9810), which is affiliated with Nippon Steel Corporation (TSE Prime: 5401), and JFE Shoji Corporation (unlisted), which is a group company affiliated with JFE Holdings, Inc. (TSE Prime: 5411). Steel is also handled by general trading companies, due to the large quantities involved.

Such relationships also exist between manufacturers of non-ferrous materials (which are handled in smaller quantities) and sales subsidiaries. Manufacturer-affiliated trading companies include SDAT Co., Ltd. (unlisted), a group company of Showa Denko KK (TSE Prime: 4004). Some trading companies are affiliated with general trading companies, such as Itochu Metals Corporation (unlisted), which is affiliated with Itochu Corporation (TSE Prime: 8001), and Marubeni Metals Corp. (unlisted), a group company of Marubeni Corporation (TSE Prime: 8002). Hakudo is different, being unaffiliated with any manufacturer or general trading company. Rather, Hakudo exists independently, having expanded from its origins as a privately owned firm.

Rather than dealing only with specific materials, Hakudo handles a variety (including aluminum, copper, stainless steel, and plastic). Hakudo also differs in the way it positions itself. Hakudo sees itself as a convenience store for non-ferrous metals. In addition to cutting materials to standard shapes and sizes, it handles other companies' products, offering a wide range of items that can be ordered 24 hours a day.

We have compared Hakudo with listed companies that conduct similar activities. Alconix Corporation (TSE Prime: 3036) and UEX, Ltd. (TSE Standard: 9888) are similar to Hakudo in that they also have a processing function.

## Comparison of listed companies in the same industry

(JPYmn)	Hakudo (7637)			Alconix (3036)			MonotaRo (3064)			Onoken (7414)		
	FY03/20	FY03/21	FY03/22	FY03/20	FY03/21	FY03/22	FY12/19	FY12/20	FY12/21	FY03/20	FY03/21	FY03/22
	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
Revenue	41,798	39,219	55,441	232,242	214,987	156,286	131,463	157,337	189,731	229,290	202,825	222,759
Gross profit	6,489	6,870	10,310	18,622	18,571	25,767	37,095	44,694	54,045	19,688	19,904	27,160
SG&A expenses	4,830	4,688	6,054	13,445	12,949	14,746	21,256	25,086	29,916	13,328	13,392	15,403
Operating profit	1,659	1,982	4,256	5,176	5,621	11,020	15,839	19,607	24,129	6,360	6,512	11,756
Recurring profit	1,697	2,083	4,374	5,416	5,718	11,009	15,887	19,671	24,302	6,527	6,717	11,977
Net income	1,149	1,282	2,964	3,617	2,860	7,507	10,751	13,473	17,552	4,416	4,508	8,145
ROE	6.8%	7.3%	15.7%	9.2%	6.9%	15.1%	33.0%	32.9%	33.1%	6.4%	6.3%	10.4%
ROA (RP-based)	5.2%	6.4%	11.7%	3.9%	4.1%	6.8%	28.8%	27.9%	27.5%	4.2%	4.5%	7.6%
Operating profit margin	4.0%	5.1%	7.7%	2.2%	2.6%	7.1%	12.0%	12.5%	12.7%	2.8%	3.2%	5.3%
Total assets	32,071	33,115	41,781	134,463	147,917	176,437	59,691	81,263	95,789	153,598	144,092	170,468
Net assets	17,081	17,870	19,829	41,277	43,372	57,331	37,512	47,658	60,283	70,160	73,947	83,275
Equity ratio	53.3%	54.0%	47.5%	30.1%	28.9%	32.2%	62.1%	57.5%	61.9%	45.7%	51.2%	48.5%
Cash flows from operating activities	1,503	2,128	4,556	9,091	4,098	-3,329	9,064	15,269	12,258	15,203	14,627	-5,139
Cash flows from investing activities	-1,367	-553	-677	-3,171	-2,472	-3,257	-3,765	-9,015	-14,290	-5,377	-5,659	-5,036
Cash flows from financing activities	-1,230	-657	-1,202	-7,993	2,849	5,760	-6,562	1,773	-5,766	-10,458	-9,128	10,455
Cash and deposits	4,969	5,924	8,675	21,595	26,002	25,944	10,746	18,767	11,068	1,980	1,820	2,099
Interest-bearing debt	0	0	0	51,646	59,119	61,471	2,498	10,250	9,620	28,402	20,173	30,088
(JPYmn)	Shinsho Corporation (8075)			UEX (9888)			Misumi Group (9962)					
	FY03/20	FY03/21	FY03/22	FY03/20	FY03/21	FY03/22	FY03/20	FY03/21	FY03/22			
	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.			
Revenue	936,031	784,160	494,351	56,432	49,379	45,524	313,337	310,719	366,160			
Gross profit	29,933	26,579	33,533	7,944	7,058	9,224	133,585	134,878	166,863			
SG&A expenses	25,103	22,124	23,478	6,832	6,611	7,102	109,944	107,679	114,652			
Operating profit	4,829	4,454	10,054	1,111	447	2,122	23,640	27,199	52,210			
Recurring profit	3,943	4,067	9,726	1,108	502	2,252	23,245	27,189	52,500			
Net income	1,629	2,198	7,136	694	221	1,400	16,504	17,138	37,557			
ROE	3.1%	4.1%	12.0%	5.7%	1.8%	10.7%	8.0%	7.8%	14.8%			
ROA (RP-based)	1.3%	1.4%	3.0%	2.9%	1.2%	5.3%	9.0%	9.8%	16.5%			
Operating profit margin	0.5%	0.6%	2.0%	2.0%	0.9%	4.7%	7.5%	8.8%	14.3%			
Total assets	284,477	286,233	364,029	42,182	39,437	45,663	264,684	288,921	347,390			
Net assets	54,571	57,185	63,753	12,734	12,831	14,437	211,630	233,569	279,959			
Equity ratio	18.4%	19.5%	17.3%	28.9%	31.1%	30.3%	79.2%	80.0%	79.8%			
Cash flows from operating activities	12,747	14,894	-9,279	2	1,219	1,932	28,218	36,492	55,391			
Cash flows from investing activities	-3,608	-2,048	-806	-2,786	-440	-448	-16,659	-7,069	-22,761			
Cash flows from financing activities	1,977	-6,825	4,068	4,081	-498	-1,137	-6,428	-5,530	-9,609			
Cash and deposits	16,602	22,432	15,397	4,657	4,952	5,419	44,439	71,964	101,443			
Interest-bearing debt	65,780	58,972	66,461	9,464	9,256	8,256	5,192	4,082	7,184			

Source: Shared Research based on company data

Hakudo's revenue is the smallest among the six companies. This reflects the fact that Onoken Co., Ltd. (TSE Prime: 7414) and Shinsho Corporation (TSE Prime: 8075) mainly handle steel and construction materials. Alconix handles a large volume of

rare earth materials. Although specializing in stainless steel, UEX's business model is relatively close to Hakudo's. Another company that could be considered a competitor with a similar business model is Shinx Corporation (unlisted, FY03/20 revenue of JPY10.1bn), which was established by former Hakudo employees and specializes in aluminum materials.

Misumi Group Inc. (TSE Prime: 9962) is comparable to Hakudo because it has established a trading company function to support manufacturing through its VONA (Variation & One-stop by New Alliance) strategy. This function is like Hakudo's backorder items business. Like the Misumi Group, MonotaRO Co., Ltd. (TSE Prime: 3064) has a business model of supplying materials to construction sites.

Hakudo's OPM is higher than all except Misumi Group and MonotaRO. Shared Research understands that Hakudo generates higher margins by offering a combination of products and services, adding value through quality and delivery times.

Hakudo is among the smallest in terms of assets; UEX is around the same size. UEX, however, specializes in stainless steel. Although Hakudo also handles stainless steel, it has diversified into other areas, focusing on aluminum and copper. In addition, profitability is currently higher because of strong demand for aluminum sheet materials from manufacturers of semiconductor fabrication equipment. As a result, Hakudo has a higher return on assets than UEX.

## Strengths and weaknesses

### Strengths

**In addition to its inventory function (as a trading company), the company has a processing function, which helps lower customers' manufacturing costs.**

Hakudo has a variety of processing capabilities that other specialized trading companies lack. Customers can take advantage of these capabilities to have Hakudo process materials for them, as well as to stock these materials. This arrangement can reduce manufacturing time and costs for customers. Customers typically place small orders (15kg to 20kg per order); maintaining their own processing equipment for batches of this size would be costly. In addition to cutting, Hakudo can mill and machine shaped parts, handling complex and detailed work to highly accurate tolerances, which can help reduce manufacturing costs for customers. The company has 30 types of metalworking machines at its five factories in Japan. A nationwide network is in place to provide processing services in all regions. These processing services allow the company to charge higher transaction prices. As a result, OPM is higher for Hakudo (around 5%) than for other specialized trading companies (around 2% for Alconix, UEX, and Shinsho Corporation).

**The Hakudo Network Service is a highly convenient service that enables immediate order placement and delivery, using such data as market prices, processing costs, and customer information.**

According to Hakudo, it is one of only two non-ferrous trading companies in Japan that have a 24-hour online system for ordering. (The other company is Shinx Corporation [unlisted], which was established by former Hakudo employees.) Hakudo handles a wide range of non-ferrous metals, such as aluminum and copper. Customers can get quotations and place orders for products regardless of office hours, which is convenient and reduces ordering costs. The company's online service tailors quotations to specific order details and is based on the company's own inventory of standard stock items, other companies' products it handles, and accumulated data (on current material prices, processing costs, customer order history, and credit information). More than 10,000 companies are registered users of the Hakudo Network Service. According to the Japan Economic Census (2016), Japan has 20,651 manufacturers of production machinery and equipment. A simple calculation suggests that around 48% of these companies use the online service. Hakudo is inviting other companies in its industry to use the system as well, turning Hakudo Network Service into an online platform for non-ferrous materials.

**Accumulated customer data allows the company to manage inventories and control processing costs.**

Hakudo led its competitors in introducing a computerized system (in 1968) and developing a database. After repeated improvement and more than 50 years of using the system, Hakudo has accumulated information on 13,000 (mainly Japanese) customers. This information includes order histories, payment terms, and credit information. The company uses this database to calculate customer-specific transaction prices (including shipping fees). The system allows the company to adjust its sourcing volumes based on perceived customer trends, identify methods of processing from base materials (as

sourced) into end materials (in inventory after processing), and optimize inventory management. This system is also used to manage processing costs by calculating how to shape source materials (at the point of sourcing) to minimize scrap.

## Weaknesses

### **The company is susceptible to volatility in raw material prices, as it handles non-ferrous materials for specific customer segments.**

Hakudo handles various non-ferrous materials, centering on aluminum and copper. The company processes these materials into standard stock items that it sells based on market prices at the time transactions occur. Most customers are manufacturers of precision industrial and electrical equipment (such as semiconductor production and OA equipment), which use a large amount of components made of these materials. If raw material prices decline while products are in inventory, the company can incur inventory valuation losses. This situation is amplified during recessions following demand expansion, when market prices and sales decline at the same time. In FY03/20, the company incurred a loss of JPY170mn due to such a difference in market value, equivalent to around 10% of recurring profit for the year (of JPY1.7bn). The company is particularly sensitive to fluctuations in market prices on aluminum and copper, which are in high demand among its customers.

### **A focus on small order quantities and rapid deliveries makes it difficult to achieve economies of scale in logistics and control logistics costs.**

The company provides detailed delivery services to its customers, but orders are small compared with companies that handle steel products in bulk. (Shared Research estimates that orders average JPY22,000 in FY03/22). This situation can cause transportation expenditure to rise. Transportation expenses account for a larger proportion of SG&A spending (32.5% over the past three years) than personnel expenses, which are typically high at trading companies. Looking at similar companies over the same three-year period, the figure was 12.1% for UEX. (Alconix does not disclose transportation as a key expense category.) The company seeks to differentiate itself by the convenience its “exceptional speed” provides, but this can lead to substantial delivery costs because orders are often small (averaging 15kg to 20kg), and the company handles around 10,000 orders per day. The company has its own regular truck service, but the number of items and delivery conditions vary from customer to customer, so the company also uses courier services as well as overseas sea and air transport services. As a result, transportation expenses tend to be higher than other companies.

### **The company has limited ability to meet the needs of Japanese customers that are expanding overseas.**

While Japanese manufacturers are shifting their production bases overseas, Hakudo is applying the business model it has developed in Japan (sales activities and processing plants) to its Japanese customers that are developing business overseas. In other words, Hakudo is attempting to extend its domestic business by exporting from Japan. This situation makes it difficult for Hakudo to showcase the strengths that differentiate the company from competitors in Japan through services that meet the demands of local customers. As existing customers shift more production overseas, they will begin to require the same level of sophistication there as they do in Japan. To satisfy this need, they are likely to expand relationships with local companies. Hakudo currently has overseas sales companies in China, Thailand, and Vietnam, but its partners in those countries have less extensive processing capabilities than those in Japan. Overseas, the company faces different operating environments and business customs from Japan. To leverage the business it has built in Japan, the company will need to re-establish sales, processing, and cost management systems tailored to local markets.



# Historical performance and financial statements

## Income statement

Income statement	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
(JPYmn)	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
<b>Revenue</b>	<b>22,151</b>	<b>25,571</b>	<b>29,923</b>	<b>32,461</b>	<b>34,627</b>	<b>43,709</b>	<b>45,228</b>	<b>41,798</b>	<b>39,219</b>	<b>55,441</b>
YoY	-7.1%	15.4%	17.0%	8.5%	6.7%	26.2%	3.5%	-7.6%	-6.2%	41.4%
Cost of revenue	17,925	20,891	24,436	27,116	28,613	36,183	38,027	35,309	32,549	45,131
<b>Gross profit</b>	<b>4,226</b>	<b>4,680</b>	<b>5,487</b>	<b>5,345</b>	<b>6,014</b>	<b>7,527</b>	<b>7,201</b>	<b>6,489</b>	<b>6,670</b>	<b>10,310</b>
Gross profit margin	19.1%	18.3%	18.3%	16.5%	17.4%	17.2%	15.9%	15.5%	17.0%	18.6%
SG&A expenses	2,845	3,015	3,449	3,639	4,029	4,742	4,951	4,830	4,688	6,054
SG&A ratio	12.8%	11.8%	11.5%	11.2%	11.6%	10.8%	10.9%	11.6%	12.0%	10.9%
<b>Operating profit</b>	<b>1,380</b>	<b>1,665</b>	<b>2,038</b>	<b>1,707</b>	<b>1,986</b>	<b>2,785</b>	<b>2,250</b>	<b>1,659</b>	<b>1,982</b>	<b>4,256</b>
YoY	0.4%	20.6%	22.4%	-16.3%	16.3%	40.3%	-19.2%	-26.3%	19.5%	114.7%
Operating profit margin	6.2%	6.5%	6.8%	5.3%	5.7%	6.4%	5.0%	4.0%	5.1%	7.7%
Non-operating income	77	87	93	95	96	95	121	131	126	155
Interest income	3	5	8	10	7	7	6	8	7	7
Dividend received	8	8	8	9	10	6	7	10	8	30
Real estate rent	61	67	69	71	72	71	79	85	86	91
Other	5	7	7	6	7	11	29	28	15	6
Non-operating expenses	91	49	59	52	39	34	37	92	24	37
Expenses of real estate rent	23	19	20	23	14	13	24	36	16	25
Commission for purchase of treasury shares			20							
Commission expenses	2	2	1	1	1	0	0	1	0	0
Foreign exchange losses	41	16	7	18	13	8		28		
Loss on retirement of non-current assets	9	5	3	4	7	3	3	10	5	3
Cancellation penalty	14		1	-						
Litigation expenses						6				
Valuation losses on golf membership							5	7		
Other	3	7	6	6	4	4	5	11	3	8
<b>Recurring profit</b>	<b>1,366</b>	<b>1,703</b>	<b>2,073</b>	<b>1,750</b>	<b>2,043</b>	<b>2,846</b>	<b>2,334</b>	<b>1,697</b>	<b>2,083</b>	<b>4,374</b>
YoY	-2.8%	24.6%	21.7%	-15.5%	16.7%	39.3%	-18.0%	-27.3%	22.8%	109.9%
Recurring profit margin	6.2%	6.7%	6.9%	5.4%	5.9%	6.5%	5.2%	4.1%	5.3%	7.9%
Extraordinary gains	12									
Gain on sales of investment securities	12									
Extraordinary losses	8		16						197	
Loss on valuation of investment securities	8									
Impairment losses			16							
Retirement benefit expenses									197	
Other	0									
Income taxes	543	643	705	556	637	818	769	549	693	1,410
Implied tax rate	39.6%	37.8%	34.3%	31.7%	31.2%	28.7%	32.9%	32.3%	36.7%	32.2%
Net income attributable to non-controlling interests	827	1,060	-0	-0	-0	0	0	0	0	0
<b>Net income attributable to owners of the parent</b>	<b>827</b>	<b>1,060</b>	<b>1,351</b>	<b>1,195</b>	<b>1,405</b>	<b>2,028</b>	<b>1,565</b>	<b>1,149</b>	<b>1,282</b>	<b>2,964</b>
YoY	6.6%	28.2%	27.4%	-11.6%	17.6%	44.3%	-22.8%	-26.6%	11.6%	131.2%
Net margin	3.7%	4.1%	4.5%	3.7%	4.1%	4.6%	3.5%	2.7%	3.3%	5.3%

Source: Shared Research based on company data

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

In the decade leading up to FY03/19, revenue trended upward consistently. In FY03/20 and FY03/21, revenue declined due to the global economic impact of the COVID-19 pandemic, but recovered sharply in FY03/22 thanks to strong investment in equipment for semiconductors.

Operating profit has hovered between 5% and 6%; the trading company business makes it difficult to leverage operating profit by increasing sales. For pure trading companies, OPM tends to average between 1% and 2%. However, Hakudo also offers a processing service that machines products to customer specifications. This arrangement allows the company to generate higher profit margins by setting its own prices, based on customer requirements and characteristics in addition to market prices.

SG&A spending run to around 11% of revenue. Transportation expenses account for more than 30% of this amount, which is even higher than personnel expenses (typically the largest expense item for a trading company). Shared Research understands that the increase in transportation expenses is connected to the way the company's sale structure emphasizes delivery.

## SG&A expenses

SG&A expenses (JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
SG&A expenses	2,845	3,015	3,449	3,639	4,029	4,742	4,951	4,830	4,688	6,054
Freightage expenses	741	904	1,082	1,147	1,298	1,540	1,596	1,578	1,531	1,864
Provision for employee bonuses	12	1	-3	-3	1	-0	3	-2	1	-4
Salaries and allowances	679	661	666	708	758	871	948	1,042	1,026	1,105
Employee bonuses	196	189	140	152	141	226	212	125	103	332
Provision for employee bonuses	-	-	171	141	188	231	170	151	209	334
Provision for directors' bonuses	21	17	43	50	73	98	56	37	48	214
Retirement benefit expenses	28	30	28	26	34	32	34	38	41	52
Outsourcing costs	224	298	369	391	419	447	492	461	490	684
Depreciation	90	69	68	70	68	97	105	131	144	156

Source: Shared Research based on company data

## Balance sheet

Balance sheet (JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
<b>Assets</b>										
Cash and deposits	5,509	5,717	4,301	4,256	4,820	5,902	6,088	4,969	5,924	8,675
Notes and accounts receivable	7,167	8,039	9,857	10,137	11,259	14,045	12,001	10,780	10,847	13,323
Electronically recorded monetary claims - operating					398	950	1,330	1,753	2,004	3,688
Inventories	3,132	3,626	4,750	4,446	4,953	5,450	5,866	6,077	5,961	7,803
Deferred tax assets	45	71	181	172	245	278				
Other	70	128	51	65	99	130	81	138	140	154
Allowance for doubtful accounts	-22	-23	-22	-15	-16	-15	-23	-21	-25	-26
<b>Total current assets</b>	<b>15,901</b>	<b>17,558</b>	<b>19,119</b>	<b>19,060</b>	<b>21,758</b>	<b>26,740</b>	<b>25,343</b>	<b>23,695</b>	<b>24,851</b>	<b>33,616</b>
Buildings and structures	1,915	1,774	1,697	1,553	1,420	1,918	1,866	1,832	1,717	1,637
Machinery, equipment and vehicles	922	1,188	1,560	1,785	2,505	2,518	2,894	2,748	2,590	2,495
Land	1,857	1,899	1,900	1,900	1,900	1,900	1,904	1,904	1,900	1,900
Construction in progress										
Other	30	54	79	79	153	151	172	124	163	66
<b>Total tangible fixed assets</b>	<b>4,723</b>	<b>4,916</b>	<b>5,236</b>	<b>5,317</b>	<b>5,977</b>	<b>6,487</b>	<b>6,835</b>	<b>6,608</b>	<b>6,370</b>	<b>6,098</b>
Goodwill										
Other										
<b>Total intangible assets</b>	<b>225</b>	<b>192</b>	<b>239</b>	<b>217</b>	<b>219</b>	<b>261</b>	<b>407</b>	<b>412</b>	<b>402</b>	<b>509</b>
Investment securities	372	404	436	403	384	438	444	368	908	944
Deferred tax assets	16	3	7	11	26	300	291	338	399	429
Net defined benefit asset			76	77	69	65	59	53		
Other	185	163	80	83	171	178	237	597	185	185
Allowance for doubtful accounts										
<b>Investments and other assets</b>	<b>573</b>	<b>570</b>	<b>597</b>	<b>575</b>	<b>650</b>	<b>982</b>	<b>1,031</b>	<b>1,355</b>	<b>1,492</b>	<b>1,558</b>
<b>Total fixed assets</b>	<b>5,521</b>	<b>5,677</b>	<b>6,073</b>	<b>6,109</b>	<b>6,846</b>	<b>7,451</b>	<b>8,273</b>	<b>8,376</b>	<b>8,264</b>	<b>8,165</b>
<b>Total assets</b>	<b>21,422</b>	<b>23,236</b>	<b>25,191</b>	<b>25,169</b>	<b>28,604</b>	<b>34,191</b>	<b>33,616</b>	<b>32,071</b>	<b>33,115</b>	<b>41,781</b>
<b>Liabilities</b>										
Notes and accounts payable	7,471	8,214	10,067	9,929	9,113	10,108	7,508	6,774	5,797	7,844
Electronically recorded obligations					2,907	5,662	6,921	6,736	7,335	10,809
Short-term debt	-	-	-	-	-	-	357	-	-	-
Deposits received										
Accrued expenses	371	505	509	544	651	769	693	702	749	987
Income taxes payable	209	422	523	155	486	541	372	210	469	1,146
Deferred tax assets										
Provision for directors' bonuses	21	17	43	50	73	98	57	37	48	214
Provision for bonuses			286	239	312	373	306	274	372	605
Other	106	99	207	216	231	350	461	212	419	299
<b>Total current liabilities</b>	<b>8,179</b>	<b>9,257</b>	<b>11,636</b>	<b>11,133</b>	<b>13,772</b>	<b>17,900</b>	<b>16,630</b>	<b>14,946</b>	<b>15,190</b>	<b>21,903</b>
Long-term debt	-	-	-	-	-	-	-	-	-	-
Deferred tax assets							1	0	0	0
Reserve for retirement benefits							27	13	15	11
Long-term guarantee deposited	13	12	12	14	15	14	14	15	16	15
Other	44	17	17	16	16	16	16	16	25	22
<b>Total fixed liabilities</b>	<b>57</b>	<b>29</b>	<b>29</b>	<b>31</b>	<b>31</b>	<b>30</b>	<b>58</b>	<b>44</b>	<b>56</b>	<b>48</b>
<b>Total liabilities</b>	<b>8,236</b>	<b>9,287</b>	<b>11,665</b>	<b>11,163</b>	<b>13,804</b>	<b>17,930</b>	<b>16,688</b>	<b>14,990</b>	<b>15,246</b>	<b>21,952</b>
<b>Net assets</b>										
Capital stock	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Capital surplus	621	621	621	621	621	621	621	621	621	621
Retained earnings	11,425	12,074	13,001	12,105	13,000	14,364	15,079	15,354	15,978	17,740
Treasury stock	-1	-1	-1,547	-1	-1	-1	-1	-2	-2	-2
Accumulated other comprehensive income	142	255	451	281	181	277	230	107	272	470
<b>Total net assets</b>	<b>13,187</b>	<b>13,949</b>	<b>13,526</b>	<b>14,006</b>	<b>14,801</b>	<b>16,261</b>	<b>16,928</b>	<b>17,081</b>	<b>17,870</b>	<b>19,829</b>
Working capital	2,827	3,452	4,540	4,655	7,099	9,387	10,359	10,083	11,010	13,281
Total interest-bearing debt	-	-	-	-	-	-	357	-	-	-
Net debt	-5,509	-5,717	-4,301	-4,256	-4,820	-5,902	-5,730	-4,969	-5,924	-8,675

Source: Shared Research based on company data

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

Over the past decade, assets have expanded nearly in lockstep with revenue, with trade receivables and payables both growing. Assets increased due to capex around FY03/18. Performance declined in FY03/20 and FY03/21 and assets remained almost unchanged, but they began to expand again in FY03/22 as performance began to recover.

Cash and deposits have been accumulating steadily, so working capital is essentially self-financed. The company has focused on remaining debt-free. Over the past 10 years, the company has had virtually no interest-bearing debt, except for a loan in FY03/19.

# Cash flow statement

Cash flow statement (JPYmn)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
Cash flows from operating activities (1)	1,329	1,271	1,255	1,269	2,414	3,103	2,074	1,503	2,128	4,556
Income before income taxes	1,370	1,703	2,056	1,750	2,043	2,846	2,334	1,697	1,887	4,374
Depreciation	456	462	503	578	657	768	801	892	836	840
Gains (losses) on sale of fixed assets	6	8	4	3	7	3	3	10	1	3
Change in working capital	92	-583	-1,006	-185	30	-53	-4	-363	-535	-393
Cash flows from investing activities (2)	-176	-1,876	-337	86	-1,301	-1,379	-1,028	-1,367	-553	-677
Purchase of property, plant and equipment and intangible assets	-271	-606	-828	-715	-1,199	-1,362	-1,167	-925	-552	-664
Proceeds from sales of property, plant and equipment and intangible assets	3	1	13	12	3	3	2	13	9	0
Free cash flow (1+2)	1,153	-605	917	1,354	1,113	1,724	1,046	136	1,575	3,879
Cash flows from financing activities	-321	-411	-1,990	-544	-511	-664	-850	-1,230	-657	-1,202
Cash dividends paid	-321	-411	-424	-544	-510	-663	-850	-873	-657	-1,202
Change in cash and cash equivalents	857	-992	-1,016	754	565	1,082	186	-1,119	956	2,751

Source: Shared Research based on company data

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

## Cash flows from operating activities

Over the past 10 years, operating activities have been a net source of cash, mostly in line with sales growth. The company explains that it handles nearly 20,000 inquiries and estimates each day, and around half of these result in orders. Orders are based on market prices. The company adds fees for extra services it provides and specifies the transaction price as the sum of these figures. Due to this methodology, most of the company's orders generate profit equivalent to the company's added value. Accordingly, the company has posted stable pre-tax net income, although fluctuating in tandem with sales changes.

## Cash flows from investing activities

Over the past 10 years, investing activities have typically used cash. The company differentiates itself from competitors through the ability to provide standard products immediately (by having them fully stocked), and the ability to perform complex and highly precise machining functions as requested by customers. To maintain and strengthen these characteristics, the company has five factories in Japan that serve as both warehouses for inventory products and processing plants. Investment to manage inventories, purchase metalworking machines with new functions, and preparing for overseas expansion is ahead of schedule.

## Cash flows from financing activities

Financing activities have been a net use of cash in each of the past 10 years. Cash flows from financing activities have essentially paralleled dividend payments. However, expenditures exceeded dividend payments in FY03/15 (due to the repurchase of treasury stock) and in FY03/20 (due to the repayment of long-term debt). In FY03/22, total dividends doubled, boosting shareholder returns with two dividend payments and higher year-end dividends.

# Historical performance

## 1H FY03/23 results

### Summary

- Revenue: JPY31.8bn (+23.1% YoY)
- Operating profit: JPY2.2bn (+14.5% YoY)
- Recurring profit: JPY2.4bn (+18.4% YoY)
- Net income attributable to owners of the parent: JPY1.6bn (+21.2% YoY)

### Changes in market conditions and demand

The semiconductor production equipment industry, which significantly affects the company's group performance, is expected to see demand for semiconductors driven by IoT, DX, and AI. However, demand for production equipment seems to have plateaued for now. Elsewhere, orders are increasing in the machine-tool industry, especially for exports. However, aircraft industry capex remains sluggish.

Given the constraints on customer visits and face-to-face sales, the company continued to promote the use of its 24/7 quotation and ordering website (Hakudo Network Service) and remote sales tools. These efforts helped the company to prevent customer service from deteriorating significantly. The company also worked to substantially increase the number of items listed on Hakudo Network Service (from 32,700 at end-March 2022 to 39,700 as of end-September 2022) and make the site more convenient. Revenue from three consolidated subsidiaries (AQR Co., Ltd., Shanghai Hakudo Precision Materials Co., Ltd., and Hakudo (Thailand) Co., Ltd.) increased YoY.

## Financial results: Substantial increase in sales and profit

1H revenue grew 23.1% YoY.

This broke down as JPY19.2bn from standard stock items (+15.8% YoY) and JPY12.5bn from special-order items (+36.1% YoY). Sales volume decreased JPY5.0mn, but the unit price increased JPY3.2bn for standard stock items, while the sales volume grew JPY107mn and the unit price increased JPY2.3bn for special-order items (parent basis in both cases). On a consolidated basis, higher unit prices led to higher revenue, as was the case on the parent-only basis. Quarterly sales remained at a high level in Q2 (three months) despite a decrease in demand (-2.2% QoQ) for semiconductor/FPD production equipment and other applications compared to Q1 (three months). Furthermore, use of the Internet sales site Hakudo Network Service increased.

By product type, sales increased YoY, mainly for the mainstay aluminum, but also for copper and stainless steel. The composition by customer industry (domestic) was 47.2% in Q1 and 45.0% in Q2 (three months) for semiconductor/FPD production equipment, 15.0% in Q1 and 15.4% in Q2 for other machine tools, and 8.6% in Q1 and 7.8% in Q2 for OA equipment. As such, revenue growth was mainly driven by semiconductor/FPD production equipment.

As of end-September 2022, market prices for key raw materials included JPY1,130,000/t for electrolytic copper (-JPY50,000/t from end-June 2022) and JPY397,000/t for aluminum ingots (Nikkei monthly average; -25,000/t). However, stainless steel rose to JPY680,000/t (Japan Metal Daily median; +80,000/t).

Gross profit grew 11.5% YoY to JPY5.4bn. The main reasons for the increase were higher revenue and the impact of changes in the market prices of raw materials. Gross profit margin was 17.0% (-1.8pp YoY) due to a sharp rise in unit prices. Also, according to the company, profitability on a volume basis improved due to cost reductions and other factors. SG&A expenses were JPY3.2bn (+9.4% YoY) due to higher personnel and transportation costs. As a result, operating profit increased 14.5% YoY and the operating profit margin was 7.0% (-0.5pp YoY) due to a decline in the gross profit margin. Inventory valuation gains in 1H FY03/23 were JPY371mn, compared with JPY259mn in 1H FY03/22.

## Performance by segment

- Japan: Segment revenue of JPY30.3bn (+23.3% YoY), operating profit of JPY2.1bn (+16.1% YoY)
- China: Segment revenue of JPY876mn (+6.7% YoY), operating profit of JPY10mn (-73.7% YoY)
- Others: Segment revenue of JPY593mn (+41.5% YoY), operating profit of JPY65mn (+25.0% YoY)

The Japan segment includes results stemming from the parent company and AQR Corporation, as well as effect of collaboration with Oristar Corporation in Vietnam and exports to other countries overseas. The China segment reflects the performance of Shanghai Hakudo Precision Materials Co., Ltd., and its Others segment indicates earnings from Hakudo (Thailand) Co., Ltd.

The 1H results for each segment are as follows. In the Japan segment, demand for semiconductor/SPE production equipment was the driving force for earnings, along with the parent results and overseas exports. The China segment performance was also weak due to the impacts of strict coronavirus countermeasures, despite an increase in semiconductor/SPE production equipment-related sales. Results for the Others segment were due to increased demand from automotive-related industries at the Thai subsidiary.

## Q1 FY03/23 results

### Summary

- Revenue: JPY16.1bn (+27.1% YoY)
- Operating profit: JPY1.2bn (+22.5% YoY)
- Recurring profit: JPY1.3bn (+23.5% YoY)
- Net income attributable to owners of the parent: JPY888mn (+23.8% YoY)

## Changes in market conditions and demand

The Hakudo group's performance is affected substantially by continued expansion of demand for semiconductor production equipment due to the development of IoT, DX, and AI. Capex in this industry has been robust. In addition, despite some risk from the semiconductor shortage, the orders situation is improving in the machine tool sector, centering on exports. Capex remains sluggish, however, in the aircraft sector.

Given the constraints on customer visits and face-to-face sales, the company continued to promote the use of its 24/7 quotation and ordering website (Hakudo Network Service) and remote sales tools. These efforts helped the company to prevent customer service from deteriorating significantly. The company also worked to substantially increase the number of items listed on Hakudo Network Service (from 32,700 at end-March 2022 to 33,700 as of end-June 2022) and make the site more convenient. Revenue from two consolidated subsidiaries (AQR Co., Ltd. and Hakudo [Thailand] Co., Ltd.) increased YoY, while Shanghai Hakudo Precision Materials Co., Ltd. was affected by the lockdown in Shanghai (which lasted for about two months).

## Financial results: Substantial increase in sales and profit

Revenue grew 27.1%, or JPY3.4bn, YoY. The rise in revenue was attributed to increased sales volume and unit prices of standard stock items (parent basis), the former contributing JPY586mn and the latter JPY1.4bn to revenue, and increased sales volume and unit prices of special order products (parent basis), with the former adding JPY738mn and the latter JPY612mn to revenue. Subsidiary and consolidation adjustments also contributed JPY116mn to the revenue growth. Of the increase in revenue, 58% was attributed to higher unit prices, 39% to increased sales volume, and 3% to other factors. In Q1, revenue from sales of standard stock items amounted to JPY9.9bn (+23.5% YoY), backed by a 17.4% and a 6.1% YoY increase, respectively, in unit prices and sales volume.

By customer industry, revenue growth (parent basis) was driven by sales to semiconductor and FPD manufacturing equipment makers (48% of Q1 revenue) and sales to other machine tools manufacturers (15%). By product category, revenue (consolidated basis) from sales of aluminum was JPY10.7bn (+29.8% YoY), sales of copper was JPY2.1bn (+18.3% YoY), sales of stainless steel was JPY2.6bn (+28.8% YoY), and sales of other JPY696mn (+12.0% YoY).

As of end-March 2022, market prices for key raw materials included JPY1,180,000/t for electrolytic copper (-11.3% from end-March 2022), JPY422,000/t for aluminum ingots (Nikkei monthly average; -13.5% from end-March 2022), JPY500,000/t for stainless steel (Japan Metal Daily median; +20.0% from end-March 2022).

On the profit front, gross profit grew 18.1% YoY to JPY2.8bn, but GPM dipped 1.4pp YoY to 17.4%. While gross profit increased on higher revenue, the GPM fell as the company was slow to reflect the increase in transaction prices in selling price. The company said it will work to resolve these delays going forward. Also contributing to the decline in GPM was a JPY165mn (parent basis) increase in manufacturing costs, such as labor costs, included in the cost of revenue. SG&A expenses rose JPY206mn YoY to JPY1.6bn, primarily due to a JPY198mn increase in parent SG&A expenses on higher shipping costs stemming from revenue growth. As a result, operating profit was up 22.5% YoY, while OPM was down 0.3pp YoY to JPY7.5%. Gains on inventory revaluation were JPY171mn (versus JPY104mn in Q1 FY03/22).

## Performance by segment

- Japan: Segment revenue of JPY15.4bn (+28.3% YoY), operating profit of JPY1.2bn (+26.0% YoY)
- China: Segment revenue of JPY357mn (-14.8% YoY), operating loss of JPY11mn (vs. operating profit of JPY15.0mn in Q1 FY03/22)
- Others: Segment revenue of JPY290mn (+47.2% YoY), operating profit of JPY39mn (+18.2% YoY)

Hakudo's reporting segments indicate where its earnings were generated. Its Japan segment includes results stemming from the parent company and AQR Corporation, while its China segment reflects the performance of Shanghai Hakudo Precision Materials Co., Ltd., and its Others segment indicates earnings from Hakudo (Thailand) Co., Ltd. Revenue and profits arising from the company's collaboration with Oristar Corporation in Vietnam are included in the Japan segment as exports from Japan.

In Q1, revenue and profit increased in the Japan segment, thanks to robust performance of the parent on the back of strong sales to semiconductor and FPD manufacturing equipment makers and machine tool manufacturers. In the China segment, revenue fell as performance of the mainstay subsidiary in Shanghai was affected by citywide lockdowns, failing to cover the fixed costs and leading to an operating loss. In Others, performance of the Thai subsidiary improved.

# Full-year FY03/22 results

## Summary

- Revenue: JPY55.4bn (+41.4% YoY)
- Operating profit: JPY4.3bn (+114.7% YoY)
- Recurring profit: JPY4.4bn (+109.9% YoY)
- Net income attributable to owners of the parent: JPY3.0bn (+131.2% YoY)

## Changes in market conditions and demand

The Hakudo group's performance is affected substantially by demand for semiconductor production equipment. Capex in this industry has been robust, spurred by increase in demand for 5G and data centers. In addition, despite some risk from the semiconductor shortage, the orders situation is improving in the machine tool sector, centering on exports. Capex remains sluggish, however, in the aircraft sector.

Given the constraints on customer visits and face-to-face sales, the company continued to promote the use of its 24/7 quotation and ordering website (Hakudo Network Service) and remote sales tools. These efforts helped the company to prevent customer service from deteriorating significantly. The company also worked to substantially increase the number of items listed on Hakudo Network Service (from 21,200 at end-March 2021 to 32,700 as of end-March 2022) and make the site more convenient. Revenue from three consolidated subsidiaries (AQR Co., Ltd., Shanghai Hakudo Precision Materials Co., Ltd., and Hakudo (Thailand) Co., Ltd.) also increased YoY.

## Financial results: Substantial increase in sales and profit

Owing to efforts to enhance customer satisfaction and expand the scale of business, revenue grew 41.4% YoY.

As of end-March 2022, market prices for key raw materials included JPY1,330,000/t for electrolytic copper (+29.1% from end-March 2021), JPY488,000/t for aluminum ingots (Nikkei monthly average; +66.0% from end-March 2021), JPY500,000/t for stainless steel (Japan Metal Daily median; +31.6% from end-March 2021). All continue their upward trends.

Under these market conditions, revenue grew 41.4% YoY. Demand increased for all products, and especially aluminum, the company's mainstay, against a backdrop of strong demand for capital investment in the semiconductor production equipment industry. Aluminum generated JPY36.4bn (+41.8% YoY), copper JPY7.5bn (+47.0% YoY), stainless steel JPY8.8bn(+35.0% YoY), and other materials JPY2.8bn (+42.3% YoY). As a result of the higher sales of semiconductor production equipment, the percentage of special order items increased to 35.7% (+1.7pp YoY), with standard stock items at 64.3% (-1.7pp YoY).

Gross profit rose to JPY10.3bn (+54.6% YoY), and GPM increased to 18.6% (+1.6pp YoY), on growth in revenue and favorable market conditions. SG&A expenses rose 29.1% YoY to JPY6.1bn, driven by higher personnel and transportation expenses. However, upon review of various expenses including transportation, the company's SG&A-to-sales ratio declined 1.2pp YoY. As a result, operating profit rose 114.7% YoY and OPM increased to 7.7% (+2.6pp YoY). Gains on inventory revaluation were JPY610mn in FY03/22, with a JPY566mn upward impact on profit.

## Performance by segment

- Japan: Segment revenue of JPY52.8bn (+41.5% YoY), operating profit of JPY4.1bn (+111.4% YoY)
- China: Segment revenue of JPY1.7bn (+26.1% YoY), operating profit of JPY70mn (+233.3% YoY)
- Others: Segment revenue of JPY882mn (+72.6% YoY), operating profit of JPY81mn (+326.3% YoY)

Hakudo's reporting segments indicate where their earnings were generated. Its Japan segment includes results stemming from the parent company and AQR Corporation, while its China segment reflects the performance of Shanghai Hakudo Precision Materials Co., Ltd. Its Others segment indicates earnings from Hakudo (Thailand) Co., Ltd., as well as its ongoing collaboration with Oristar Corporation in Vietnam.

# Cumulative Q3 FY03/22 results

## Summary

- Revenue: JPY40.5bn (+45.6% YoY)
- Operating profit: JPY3.1bn (+163.6% YoY)
- Recurring profit: JPY3.2bn (+156.9% YoY)
- Net income attributable to owners of the parent: JPY2.2bn (+151.7% YoY)

## Changes in market conditions and demand

The Hakudo group's performance is affected substantially by demand for semiconductor production equipment. Capex in this industry has been robust, spurred by increase in demand for 5G and data centers. In addition, despite some risk from the semiconductor shortage, the orders situation is improving in the machine tool sector, centering on exports. Capex remains sluggish, however, in the aircraft sector.

Given the constraints imposed by rising COVID-19 infections on customer visits and face-to-face sales, the company continued to promote the use of its 24/7 quotation and ordering website (Hakudo Network Service) while utilizing more remote sales tools. These efforts helped the company to prevent customer service from deteriorating significantly. The company also worked to substantially increase the number of items listed on Hakudo Network Service (from 15,500 at end-March 2020 to 27,600 as of end-December 2021) and make the site more convenient. Revenue from three consolidated subsidiaries (AQR Co., Ltd., Shanghai Hakudo Precision Materials Co., Ltd., and Hakudo (Thailand) Co., Ltd.) also increased YoY.

## Financial results: Substantial increase in sales and profit

Owing to efforts to enhance customer satisfaction and expand the scale of business, revenue grew 45.6% YoY.

Aluminum generated JPY26.5bn in revenue (+45.5% YoY), while copper yielded JPY5.6bn (+54.8% YoY), stainless steel JPY6.4bn (+38.1% YoY), and other materials JPY2.0bn (+48.5% YoY). Revenue generated through standard stock items rose about 38% YoY, and growth in sales prices (parent basis) accounted for about nine points of this increase, while expansion in sales volume was responsible for about 29 points.

Revenue growth thus was fueled by increased volume, which in turn reflected stronger demand from sectors including semiconductor production equipment and machine tools. As of end-December 2021, market prices for key raw materials included JPY1,140,000/t for electrolytic copper (+10.7% from end-March 2021), JPY375,000/t for aluminum ingots (Nikkei monthly average; +27.6% from end-March 2021), JPY450,000/t for stainless steel (Japan Metal Daily median; +18.4% from end-March 2021). In short, all have risen.

At the profit level, gross profit rose to JPY7.6bn (+65.4% YoY) despite a rise in processing fees and labor costs accompanying increased revenue. GPM increased to 18.7% (+2.2pp YoY), largely on the strength of growth in revenue. SG&A expenses rose 31.0% YoY to JPY4.4bn on an increase in labor costs including performance-linked bonuses and higher freight costs, but the SG&A-to-sales ratio declined 1.2pp YoY. The impact of inventory revaluation was a JPY422mn gain reflecting increases in raw material costs and manufacturers' processing fees, as compared with a JPY26mn loss in Q3 FY03/21. As a result, operating profit rose 163.6% YoY and OPM increased to 7.7% (+3.4pp YoY). Recurring profit was a record high for cumulative Q3.

## Performance by segment

- Japan: Segment revenue of JPY38.5bn (+45.8% YoY), operating profit of JPY3.0bn (+160.6% YoY)
- China: Segment revenue of JPY1.3bn (+28.9% YoY), operating profit of JPY60n (+122.2% YoY)
- Others: Segment revenue of JPY659mn (+77.6% YoY), operating profit of JPY77mn (+600.0% YoY)

Hakudo's reporting segments indicate where its earnings were generated. Its Japan segment includes results stemming from the parent company and AQR Corporation, while its China segment reflects the performance of Shanghai Hakudo Precision Materials Co., Ltd., and its Others segment indicates earnings from Hakudo (Thailand) Co., Ltd. Hakudo anticipates that its collaboration with Oristar Corporation in Vietnam will continue.

In the Japan segment, both the parent company and AQR posted stronger sales, especially in aluminum products for the semiconductor production equipment sector. The China segment benefited from increased demand from local makers of semiconductor production equipment, electric vehicles, and machine tools. Sales also increased at Hakudo (Thailand) Co.,

Ltd., the core company in the Others segment, amid growth in new customers numbers (including local companies) and a recovery in demand from the automotive sector.



# News and topics

## Company announces medium-term management plan covering FY03/23–FY03/25

2022-05-31

On May 30, 2022, Hakudo Co., Ltd. announced a medium-term management plan covering FY03/23–FY03/25.

On the same day, the company announced that it has formulated a medium-term management plan covering FY03/23–FY03/25.

In the final year of the plan, the company aims to achieve revenue of JPY71.8bn and recurring profit of JPY5.4bn as management targets, ROIC of 15% and operating cash flow of JPY4.7bn as key financial plan indexes, and a dividend payout ratio of 40% as shareholder return policy. The company has already held a presentation for investors on May 26.

# Other information

## History

Year	Month	
1932	Feb.	Hakudo Shoten was founded as private business Kyobashi-ku (now Hachobori, Chuo-ku), Tokyo.
1949	Nov.	Hakudo Shoten was reorganized as a joint-stock company selling non-ferrous metals.
1967	May	Trade name changed from Hakudo Shoten to Hakudo Co., Ltd.
1968	Feb.	A computer system was installed.
1974	Oct.	Launch of the Kanagawa Process Center in Kanagawa Prefecture.
1978	Jun.	Start of next-day delivery service.
	Sep.	Commencement of "cut-to-order" service.
1983	Jun.	Opening of Osaka office in Osaka Prefecture.
1990	Mar.	Start of operations at the Shiga Process Center.
1991	Oct.	Establishment of the former Kousei Co., Ltd. to hold real estate for the metals business. Note: The former Kousei Co., Ltd. was merged into Hakudo in January 1992 in order to change the par value of its shares.
1992	Apr.	The former Hakudo Co., Ltd. (now Kosei Co., Ltd.) took over selling operations related to the metals business and changed its name from Dohkin Co., Ltd. to Hakudo Co., Ltd.
2000	Mar.	Registered shares over the counter with the Japan Securities Dealers Association.
2003	May	Establishment of Shanghai Hakudo Precision Materials Co., Ltd.
2004	Oct.	Listed on the Second Section of the Tokyo Stock Exchange.
2005	Sep.	Listed on the First Section of the Tokyo Stock Exchange.
2006	Feb.	Start of operations at the Koriyama Plant (now, Fukushima Process Center).
2008	May	Start of operations at the Kyushu Process Center.
2014	Oct.	Establishment of Hakudo (Thailand) Co., Ltd.
2017	Nov.	Start of operations at the Saitama Process Center.
2019	Feb.	Conversion of AQR Co., Ltd. (formerly Takase Aluminum Co., Ltd.) to a consolidated subsidiary.

Source: Shared Research based on company data

## Corporate governance and top management

### Corporate governance

Based on its corporate philosophy, the company aims to ensure management transparency, fairness, and disclosure in order to achieve management efficiency and sustainable growth.

The company's Board of Directors is chaired by the president and consists of nine directors (including five outside independent directors). In principle, the Board of Directors meets regularly on a monthly basis, holding extraordinary meetings as necessary. The board decides on important management matters in accordance with laws and ordinances, the Articles of Incorporation, and the Board of Directors regulations. The board also supervises the execution of duties by directors.

The Nomination and Remuneration Advisory Committee is an advisory body to the Board of Directors and consists of outside independent directors. This ensures transparency and objectivity in the appointment and remuneration of directors.

The company has an Audit and Supervisory Committee, with outside independent directors making up the majority of members. The aims of this committee are to further strengthen the supervisory function of the Board of Directors over management and corporate governance, and to enhance the soundness and efficiency of management.

The Audit and Supervisory Committee has four members (three outside independent directors), including its chair. In principle, the committee meets regularly on a monthly basis, holding extraordinary meetings as necessary. Members of the Audit and Supervisory Committee liaise with the Internal Audit Department and the accounting auditor, supervising the decision-making process of the Board of Directors and the status of business execution.

The head of the Internal Audit Department periodically audits the business activities of each division, including subsidiaries, for effectiveness, accuracy, and compliance, and reports to the president and the Audit and Supervisory Committee.

Business execution centers on management meetings attended by full-time directors and division heads, and department head meetings attended by full-time directors, division heads, and departmental managers. The company has also established the Risk Management Committee and other committees.

Form of organization and capital structure	
Form of organization	Company with Audit & Supervisory Committee
Controlling shareholder and parent company	None
Directors and Audit & Supervisory Committee members	
Number of directors under Articles of Incorporation	14
Number of directors	9
Directors' terms under Articles of Incorporation	1 year
Chairman of the Board of Directors	President
Number of outside directors	5
Number of independent outside directors	4
Number of members of Audit & Supervisory Committee	4
Number of outside members of Audit & Supervisory Committee	3
Number of independent outside members of Audit & Supervisory Committee	3
Other	
Providing convocation notice in English	Yes
Implementation of measures regarding director incentives	Performance-linked compensation
Disclosure of individual director's compensation	Some information disclosed
Policy on determining amount of compensation and calculation methodology	Yes
Corporate takeover defenses	None

Source: Shared Research based on company data

## Top management

### Koji Tsunoda, President & Representative Director (born August 15, 1962)

Apr. 1986	Joined Tokyo Tsuun Co., Ltd.
Jul. 1986	Joined Hakudo Co., Ltd. (Kosei Co., Ltd.)
May 2001	Head of central branch
Apr. 2002	Head of corporate planning division
Dec. 2002	Head of China office
	President of Shanghai Hakudo Precision Materials Co., Ltd.
Apr. 2004	Executive officer of Hakudo, head of overseas sales department
Jan. 2009	Chairman of Shanghai Hakudo Precision Materials Co., Ltd.
Apr. 2009	Executive officer of Hakudo, head of developmental sales division
Apr. 2010	Head of developmental sales division
Jun. 2010	Director, head of developmental sales division
Jul. 2010	Director, head of sales division
Jul. 2011	Executive director
Apr. 2012	President and representative director (current position)

## Dividend policy

(JPY)	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Dividend per share	32.0	33.0	48.0	45.0	58.5	75.0	77.0	58.0	58.0	115.0
Payout ratio	49.7%	40.0%	45.5%	42.7%	47.2%	41.9%	55.8%	57.3%	51.3%	44.0%

Source: Shared Research based on company data

## Major shareholders

Top shareholders	Shares held('000 shares)	Shareholding ratio
K & P Asset Management LLC	1,031	9.09%
The Master Trust Bank of Japan, Ltd. (trust account)	823	7.26%
Haruo Yamada	676	5.96%
Tomonori Yamada	676	5.96%
Soukou Co., Ltd.	633	5.58%
Kids Learning Network Company	632	5.57%
EastGate Corporation	602	5.30%
N&N Asset Management LLC	585	5.15%
Tetsuya Yamada	340	2.99%
Mitsushige Yamada	340	2.99%
Total	6,338	55.85%

Source: Shared Research based on company data, as of end- March 2022.

# Employees

	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19	FY03/20	FY03/21	FY03/22
Consolidated no. of employees	239	236	240	247	265	299	338	353	347	363
Japan										
Sales	177	92	84	90	94	102	103	102	100	99
Manufacturing		83	85	88	98	123	144	151	156	161
Administration	24	21	25	24	25	30	45	48	48	55
China										
Sales	33	16	17	14	16	15	13	16	14	13
Manufacturing		20	20	18	18	19	17	18	17	17
Administration	5	4	4	6	6	5	6	5	5	5
Other										
Sales			3	4	5	1	5	7	6	7
Manufacturing			0	0	0	0	0	0	0	0
Administration			2	3	3	4	5	6	1	6
Parent (no. of employees)	201	196	194	202	217	255	280	287	294	305
Average age	41.1	41.8	43.2	43.5	43.1	40.3	41.9	41.6	41.4	41.8
Average years of service	17.3	18.0	18.3	18.7	17.8	16.6	15.9	15.7	15.8	16.0
Average annual salary (JPY'000)	6,890	6,836	6,963	8,120	8,179	8,385	7,481	7,146	6,789	8,365

Source: Shared Research based on company data

# Profile

Company Name

**Hakudo Corporation**

Phone

**03-6212-2811**

Established

**1949-11-01**

Head Office

**東京都千代田区丸の内2-5-2 三菱ビル11階**

Listed On

**Tokyo Stock Exchange, Prime Market**

Exchange Listing

**2005-09-01**

Fiscal Year-End

**Mar**

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We offer corporate clients comprehensive report coverage, a service that allows them to better inform investors and other stakeholders by presenting a continuously updated third-party view of business fundamentals, independent of investment biases. Shared Research can be found on the web at <https://sharedresearch.jp>.

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