

Nippon Piston Ring Co., Ltd.

6461

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FISCO Ltd.

<https://www.fisco.co.jp>

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Summary

In the 1H FY3/22 results, sales increased by double digits and every profit item became profitable, while orders trended at a level higher than forecast. Is responding to the evolution of the automobile engine and progressing sales growth for non-automobile engines

Nippon Piston Ring Co., Ltd. <6461> (hereafter, also “the Company”) is a major manufacturer of products including piston rings and valve seat inserts that are used as vehicle engine parts. It supplies a wide range of products to the world’s leading auto manufacturers. Applying the core technologies that it has cultivated across its history of approximately 90 years since its establishment, the Company is also increasing sales for non-automobile engines as new products and businesses.

1. Company profile

The Company’s main products of piston rings and valve seat inserts are parts performing important functions related to automobile engine performance, contributing to enhanced fuel efficiency by improving heat and abrasion resistance. In actuality, there are only five manufacturers in the world that are able to provide high-quality piston rings, including the Company. For valve seat inserts as well, its strength is its expertise in sintered alloy powder blending, and it holds the leading market share, approximately 40%, for Japanese auto manufacturers.

In order to increase sales for non-automobile engines, the Company is progressing new products and businesses, mainly in the fields of industrial equipment and medicine. To give an example, in the medical field, it is aiming to create products and a business for NiFreeT, a new medical material of a titanium-tantalum alloy that is highly biocompatible being nickel-free and non-magnetic.

2. Outline of results

In the 1H FY3/22 consolidated results, net sales increased 29.9% year on year (YoY) to ¥25,497mn, operating income was ¥1,731mn (compared to a loss of ¥1,487mn in the same period in the previous fiscal year), ordinary income was ¥1,858mn (a loss of ¥1,249mn), and net income attributable to owners of parent was ¥1,277mn (a loss of ¥1,944mn). Demand in the automotive industry recovered from the rapid decrease in the same period in the previous fiscal year due to the impact of the novel coronavirus pandemic (hereafter, COVID-19), and the number of vehicles produced globally increased. However, presently manufacturers are being forced to adjust production due to the shortage of in-vehicle semiconductors and the stagnation of the supply of parts, so this recovery trend has slowed down slightly. Yet even in this situation, the Company continued to work to reduce costs and fixed costs, and as a result, every profit item became profitable.

For the FY3/22 consolidated results, the Company announced upwardly revised forecasts in August 2021. It is now forecasting an increase of 12.6% YoY in net sales to ¥51,000mn, operating income of ¥2,600mn (compared to a loss of ¥165mn in the previous fiscal year), a rise of 660.6% in ordinary income to ¥2,700mn, and net income attributable to owners of parent of ¥1,700mn (a loss of ¥813mn). As of the 2Q, the Company had left unchanged the upwardly revised forecasts announced in August 2021, taking into consideration that presently auto manufacturers are being forced to adjust production due to the shortage of in-vehicle semiconductors, stagnation of the supply of parts, and rising raw material prices, and has made excellent progress toward achieving the forecasts for the full fiscal year by, for instance, reaching more than 60% of the target for profit. Therefore, at FISCO we think it is highly likely that results will be higher than forecast.

Summary

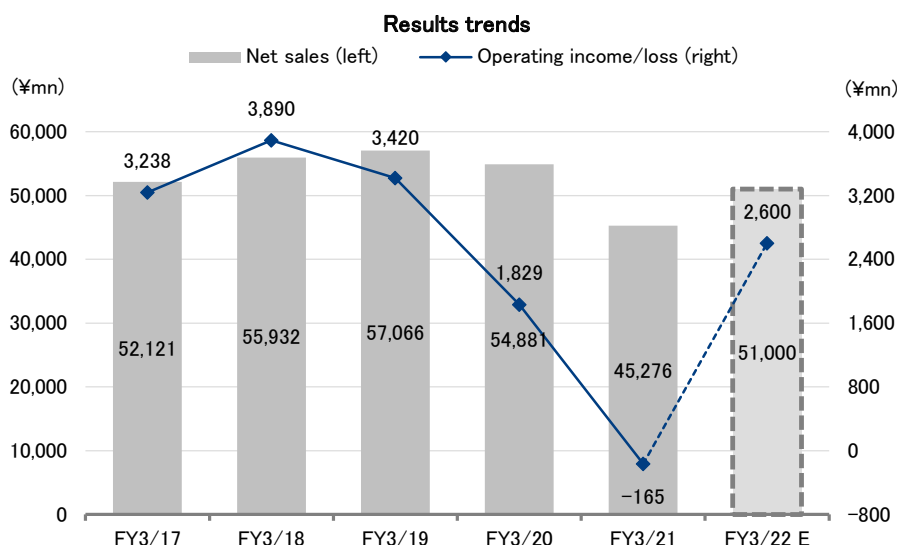
3. Growth strategy

The global automobile market is forecast to grow in the medium term, due in part to vehicle use expanding in emerging countries. For the Company, an issue will be responding to the effects of medium- to long-term environmental regulations (greater fuel efficiency of gasoline engines, declining use of gasoline engines, increased use of new clean fuel engines, spread of electric vehicles, etc.). With regards to this sort of business environment, the Company anticipates that the likelihood is low that the spread of electric vehicles will suddenly progress, and its policy is to continue to strengthen the foundation of the core businesses. In addition, based on the trend of the gradual spread of electric vehicles, it is also focusing on increasing sales for non-automobile engines through new products and businesses.

The numerical targets in The Next NPR 2030 long-term vision are net sales of ¥100bn, an operating income margin of at least 10%, for non-automobile sales to provide at least 40% of net sales, and a reduction in the CO₂ emissions volume of 46% (compared to FY3/14) in FY3/31. Moreover, the numerical targets in the 8th Medium-term Management Plan are net sales of at least ¥54bn, an operating income margin of at least 8%, for non-automobile sales to provide at least 15% of net sales, and a reduction of the CO₂ emissions volume of 25% (compared to FY3/14) in FY3/24. In addition, the Company's policy is to progress the 8th Medium-term Management Plan's five priority measures, which are (1) build an overall optimized product manufacturing system, (2) promote technical solution proposal-oriented sales by utilizing core technologies and products, (3) strengthen the development and creation of new products and businesses, (4) conduct structural reforms of people and organizations (awareness reforms), and (5) take a leap forward toward becoming a sustainable company.

Key Points

- Is a major manufacturer of automobile engine-use piston rings and valve seat inserts
- In the 1H FY3/22 results, sales increased by double digits and every profit item became profitable. Orders also trended at a level higher than forecast
- Is responding to the evolution of the automobile engine, at the same time as increasing sales for non-automobile engines



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

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

■ Company overview

A major manufacturer of piston rings and valve seat inserts

1. Company overview

The Company is a major manufacturer of products including piston rings and valve seat inserts that are used as vehicle engine parts. Its corporate philosophy is to advance all things while placing the customer first, respond flexibly to environmental changes, secure profits appropriately, and reward our shareholders and other stakeholders; act in harmony with society, secure a position as a global comprehensive parts manufacturer, and contribute to the advancement of humanity; and always strive to innovate and improve results, promote the prosperity of the company and improve the lives of employees.

As of the end of 1H FY3/22, the head office was located in Saitama City, Saitama Prefecture, and total assets were ¥65,205mn, net assets were ¥33,412mn, capital was ¥9,839mn, the equity ratio was 48.6%, and the number of outstanding shares was 8,374,157 shares (including 666,146 treasury shares).

The Group consists of 13 companies in total—the Company and 12 consolidated subsidiaries, following the absorption merger of consolidated subsidiaries Nippon Ring Service Co., Ltd. and NPR Business Services Co., Ltd. on April 1, 2021.

2. History

Nippon Piston Ring Co., Ltd. was established in December 1934 in Tamura-cho, Shiba Ward, Tokyo City, at which time it also opened the Kawaguchi Plant. It then opened the Yono Plant in April 1939, and was listed on the Tokyo Stock Exchange (TSE) in May 1949. Subsequently, it started overseas business development from the 1970s, providing a wide range of products to the world's leading auto manufacturers. Since the 2000s, it has been accelerating business development for the growth markets of China, ASEAN, and India.

Also, the Company acquired a dental implant business and obtained approval for medical equipment manufacturing and marketing in October 2014, aiming to increase sales for non-automobile engines as new products and businesses applying the core technologies accumulated since its establishment (tribology = technologies relating to friction, wear, and lubrication; surface treatment technologies; powder metallurgy technologies; and precision processing technologies). Utilizing this, it began imports and sales of radiology medical equipment in September 2020, and started a technological investigation in April 2021 toward a specific project jointly with Professor Noriyuki Hisamori of Sophia University for NiFreeT, which is a new medical-use material of a titanium-tantalum alloy. In June 2021, it began a joint development program for implantable medical devices with Medtronic <MDT>, a medical equipment manufacturer that ranks first for global sales (consolidated net sales of US\$28.9bn in FY4/20).

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Company overview

History

Date	Event
December 1934	Established Nippon Piston Ring Co., Ltd., in Tamura-cho, Shiba Ward, Tokyo City, and opened the Kawaguchi Plant
April 1939	Opened the Yono Plant
May 1949	Listed on the Tokyo Stock Exchange
June 1964	Established Nippon Ring Service Co., Ltd.
January 1973	Established Schöttle Motorenteile GmbH in West Germany
July 1973	Established NPR of America, Inc. in U.S.A.
April 1974	Established NPR FUKUSHIMA WORKS CO., LTD.
September 1982	Established NPR Kawaguchi Works Co., Ltd., and NPR Distribution Center Co., Ltd.
December 1983	Established NPR Imanishi Works Co., Ltd., (currently NPR Shimane Co., Ltd.)
October 1984	Relocated the Kawaguchi Plant. Opened the Tochigi Plant
June 1989	Opened the Nogi Branch Plant of the Yono Plant (currently the Nogi Branch Plant of the Tochigi Plant)
April 1990	Established NPR IWATE CO., Ltd.
February 1996	Capital participation in IP Rings Ltd., in India
July 1997	Established Siam NPR Co., Ltd. in Thailand as a joint venture with Siam Cement Public Co., Ltd. (currently Cement Thailand Holdings)
May 1998	Transferred the headquarters to Yono City (currently Saitama City), Saitama Prefecture
December 1999	Established NPR of Europe GmbH. in Germany
December 2000	Established PT. Nippon Piston Ring Indonesia (currently PT. NT PISTON RING INDONESIA) in Indonesia
December 2001	Converted Siam NPR Co., Ltd., (Thailand) into a wholly-owned subsidiary
September 2002	Opened the Ichinoseki Plant of NPR IWATE CO., Ltd.
October 2004	Established NPR Manufacturing Michigan, Inc. in U.S.A.
January 2005	Merged Schöttle Motorenteile GmbH. with NPR of Europe GmbH
February 2005	Established NPR Auto Parts Manufacturing (Yizheng) Co., Ltd. in China
March 2005	Established NPR SINGAPORE PTE. LTD. in Singapore
February 2006	Established NPR Trading (Shanghai) Co., Ltd. in China (liquidated in December 2009)
March 2006	Established PT. NPR MANUFACTURING INDONESIA in Indonesia.
April 2006	Established NPR Auto Parts Manufacturing (Zhenjiang) Co., Ltd. in China.
May 2006	Established NPR Manufacturing Kentucky, LLC. in U.S.A.
January 2011	Merged the four US subsidiaries, of NPR US Holdings, Inc., NPR of America Inc., NPR Manufacturing Michigan, LLC. and NPR Manufacturing Kentucky, LLC. Changed the company name to NPR of America, Inc.
March 2011	Transferred all stocks held of NPR Shimane Co., Ltd.
December 2011	Established NPR AUTO PARTS MANUFACTURING INDIA PRIVATE LIMITED in India
March 2012	Absorbed and merged NPR Kawaguchi Works Co., Ltd. and NPR Distribution Center Co., Ltd.
July 2012	Conducted an absorption merger of NPR Auto Parts Manufacturing (Yizheng) Co., Ltd., and NPR Auto Parts Manufacturing (Zhenjiang) Co., Ltd.
December 2012	Established NPR Powdered Metals Manufacturing (Yizheng) Co., Ltd. in China.
July 2013	Converted PT. NT PISTON RING INDONESIA into a wholly-owned subsidiary, and it ceased to be a joint venture
October 2013	Transferred shares of NPR Powdered Metals Manufacturing (Yizheng) Co., Ltd. to Yizheng Shuanghuan Piston Ring Co., Ltd. (currently ASIMCO Shuanghuan Piston Ring (Yizheng) Co., Ltd.) and made it a joint venture. Changed the company name to NPR ASIMCO Powdered Metals Manufacturing (Yizheng) Co., Ltd.
May 2014	Acquired the metal injection molding business of Sumitomo Metal Mining Co., Ltd.
October 2014	Acquired the dental implant business of ISHIFUKU Metal Industry Co., Ltd.
October 2015	Established the Dental Implant Medical Device Center in the Tochigi Plant
October 2018	Transferred a part of the equity interest in NPR of Europe GmbH. to Daido Metal Co., Ltd. <7245>
September 2020	Started imports and sales of radiology medical devices
April 2021	Conducted an absorption merger of Nippon Ring Service Co., Ltd., and NPR Business Services Co., Ltd. Started a technological investigation with Sophia University for NiFreeT, which is a new medical-use material of a titanium-tantalum alloy
June 2021	Stated a joint development program with Medtronic <MDT> for implantable medical devices
August 2021	Developed cobalt-free valve seat inserts
October 2021	Established the Sustainability Promotion Office

Source: Prepared by FISCO from the Company's securities report and press releases

Business summary

Main products are automobile engine-use piston rings and valve seat inserts and provides a wide range of products to the world's leading auto manufacturers

1. Business summary

The business segments are the Products for Automobiles Business, Products for Marine Engines and Other Products Business, and Others (merchandise sales, etc.). Additionally, the main products include piston rings, valve seat inserts, and assembled sintered camshafts, which are all important functional components of a vehicle's engine.

Major products

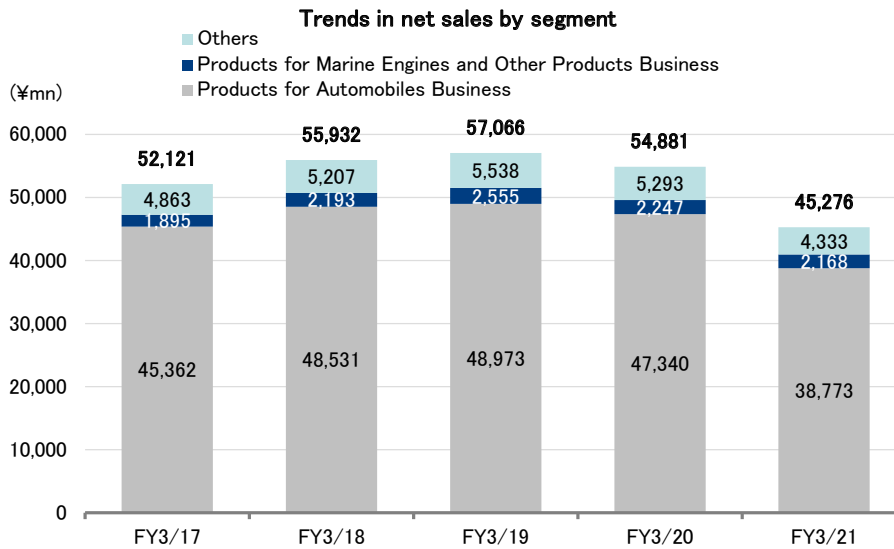


Source: The Company's results briefing materials

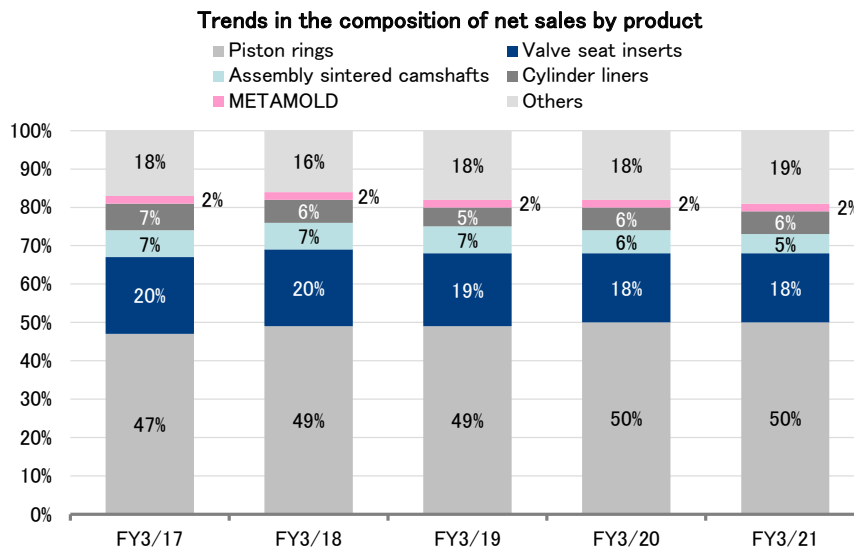
Business summary

In net sales by segment, the Products for Automobiles Business provides the majority of net sales*. Furthermore, in the composition of net sales by product, roughly speaking, piston rings provide 50% and valve seat inserts 20%, and this has not changed greatly in the last five fiscal years.

* Due to the impact of COVID-19, particularly in 1H FY3/21, the number of vehicles produced globally declined greatly, and therefore the Company's net sales decreased similarly.



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



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

Business summary

2. Characteristics and strengths

The Company’s main products of piston rings and valve seat inserts are parts performing important functions related to automobile engine performance, contributing to enhanced fuel efficiency by improving heat and abrasion resistance.

The main roles of piston rings include functions to seal gas leaks in an engine’s combustion chamber, control lubricating oil (engine oil), transfer combustion heat that escapes, and minimize piston abrasion. They are used within the combustion chamber in the harsh conditions of a temperature of 300°C, and are an important functional component related directly to engine performance. Therefore, in actuality there are only five companies in the world (one in the U.S., one in Germany, and three in Japan), including the Company, that are able to provide high-quality piston rings. In terms of technological trends, there are requirements such as for lower friction and improved abrasion resistance, high-performance and high-quality materials, and surface treatment. The Company’s strengths include its advanced precision processing, surface treatment, and materials and powder metallurgy technologies that it has cultivated across its history of 90 years since its establishment.

Valve seat inserts are the seats of the valves and exhaust valves and play the role of maintaining the airtightness of the combustion chamber. They are required to have durability that does not deteriorate even when impacted at high temperatures and airtightness that reliably seals in combustion gas. Therefore, sintered alloy is used as a material with high heat resistance and abrasion resistance. One of the Company’s strengths is its expertise in sintered alloy powder blending, for which it holds the top share, approximately 40%, for Japanese auto manufacturers.

3. Main customers

As its customers, the Company supplies a wide range of products to the world’s leading auto manufacturers, including Toyota Motor Corporation <7203>, and one of its features is that it does not rely on any specific auto manufacturer for more than 10% of net sales. Moreover, its supply of products to major auto manufacturers in the U.S. and Europe and local auto manufacturers in China is increasing.



Source: The Company’s results briefing materials

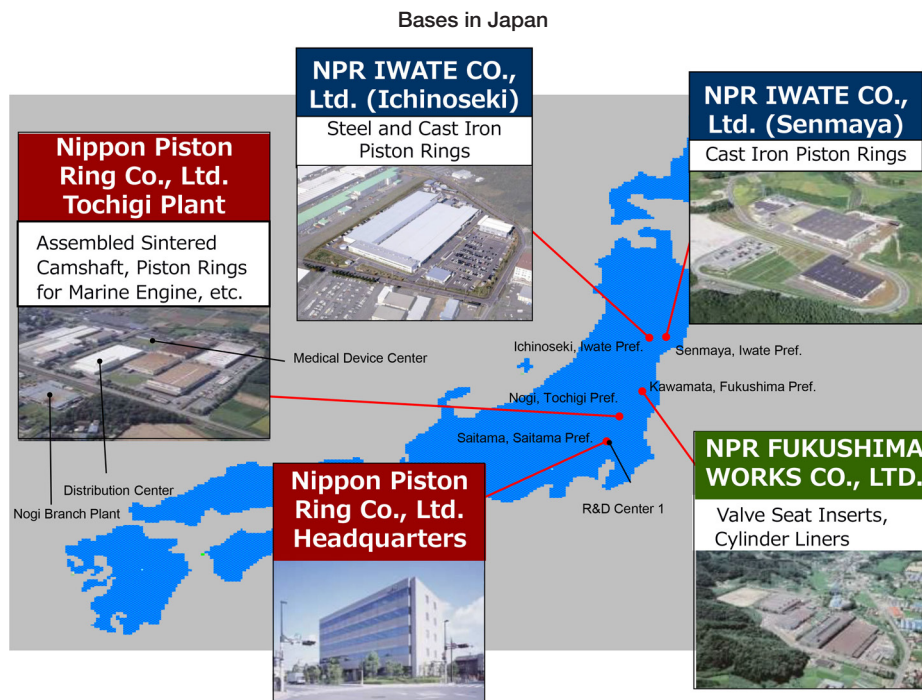
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Business summary

4. Manufacturing bases

The Group's manufacturing bases are the Company's Tochigi Plant (which includes the Medical Device Center and the Nogi Branch Plant), while manufacturing is also conducted within Japan by the manufacturing subsidiaries NPR Fukushima Works Co., Ltd. and NPR IWATE Co., Ltd. (Ichinoseki and Senmaya), and overseas by the manufacturing subsidiaries NPR of America, Inc. (U.S., NOA), NPR Auto Parts Manufacturing (Yizheng) Co., Ltd (China, NAMY), NPR ASIMCO Powdered Metals Manufacturing (Yizheng) Co., Ltd. (China, NAPM), PT. NT Piston Ring Indonesia (Indonesia, NTRI), PT. NPR Manufacturing Indonesia (Indonesia, NPMI), SIAM NPR Co., Ltd. (Thailand, SNPR), and NPR Auto Parts Manufacturing India Pvt. Ltd. (India, NPRI).

As the Group's overseas sales bases, it has sales offices for NOA in the U.S., NAMY in China, SNPR in Thailand, and NPRI in India. Furthermore, its sales subsidiaries include NPR of Europe GmbH. (Germany, NOE), NPR Singapore Pte. Ltd. (Singapore, NPRS), E.A. Associates Sdn. Bhd (Malaysia, EAA), and an office in South Korea.

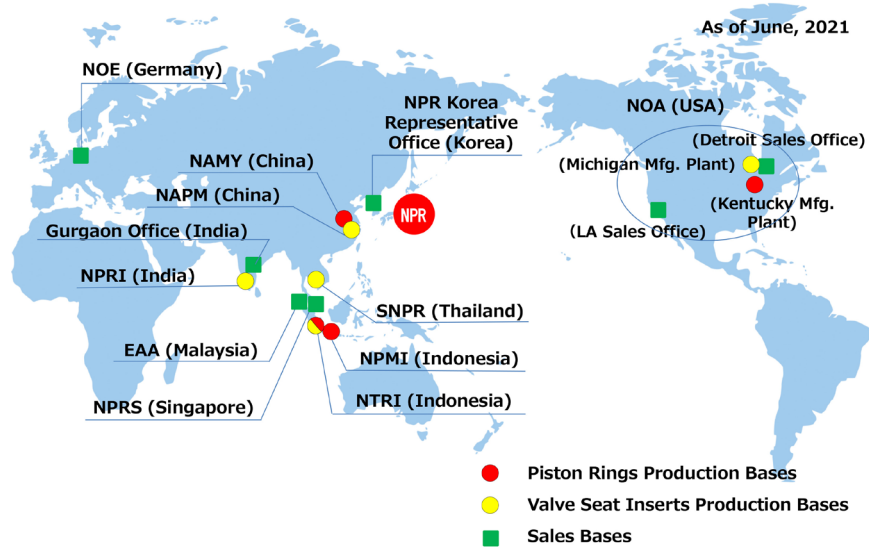


Source: The Company's results briefing materials

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Business summary

Overseas bases



Source: The Company's results briefing materials

Business summary

5. New products and businesses

In order to increase sales for non-automobile engines, the Company is progressing new products and businesses, centered on the industrial equipment and medical fields.

In METAMOLD (metal powder injection molding parts) for industrial equipment, it is working to increase sales of deflectors for ball screws for vehicles' electric power steering and for SCARA robots. Furthermore, utilizing its superiority in terms of the degree of freedom for shaping and use of materials, the Company's policy is also to develop businesses for CASE*-related parts and the robot, sensor, and medical fields.

* An acronym for Connected, Autonomous, Shared & Services, Electric.

Strengthening the development and creation of new products and businesses (METAMOLD products)



- Dimension : 50mm or less, Mass : 50g or less
- High production properties for complex shapes
- High degree of freedom for the use of materials (low alloy, SUS, Pure Ti, Ti alloy)

SCARA robot deflectors for ball screws



Electric Power Steering (EPS) deflectors for ball screws



Is utilizing the degree of freedom for shaping and for the use of materials to focus on CASE-related parts, and on the robot, sensor, and medical fields

Source: The Company's results briefing materials

In the medical field, the Company acquired a dental implant business and obtained approval to conduct medical equipment manufacturing and marketing in October 2014. Utilizing this, it began imports and sales of radiation treatment products in September 2020, and started sales of oral scanners in April 2021.

Also, regarding NiFreeT®, which is a new medical-use material of a titanium-tantalum alloy that is highly biocompatible being nickel-free and non-magnetic, the Company started a technological investigation in April 2021 toward a specific project jointly with Professor Noriyuki Hisamori and his research laboratory, which specializes in the field of materials with biological functions used in advanced medical technologies, in the Department of Engineering and Applied Sciences, Sophia University. NiFreeT was developed in-house by the Company for use with piston rings as a shape-memorizing alloy, but has been classified as a medical-use material because it is nickel-free and presents excellent processability. It is expected to be applied to dental screws, guidewires, catheter reinforcing materials, and other products, and the Company is aiming to develop products and a business at an early stage.

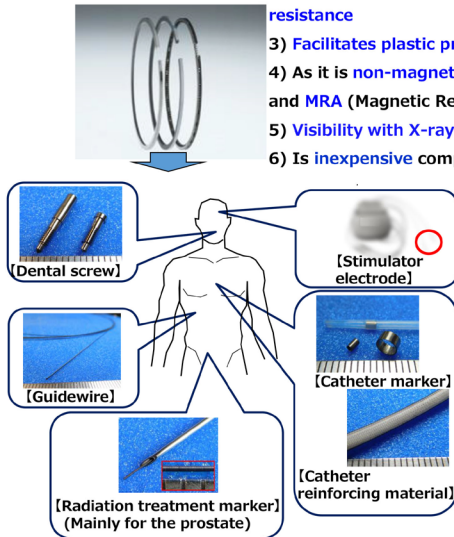
Business summary

Strengthening the development and creation of new products and business
(NiFreeT product (Ti-Ta alloy))

Currently, NiFreeT, a shape-memorizing alloy developed for use with piston rings, is being converted to be a medical material due to its superior processability

Features

- 1) Highly biocompatible being *Ni-free*, and can be **implanted within the body**
- 2) **Flexible** as a coil with **low Young's modulus** and has **high elasticity strain resistance**
- 3) **Facilitates plastic processing** and is optimal for **ultra-fine wires and pipes**
- 4) **As it is non-magnetic**, it can be used with **MRI (Magnetic Resonance Imaging)** and **MRA (Magnetic Resonance Angiography)**
- 5) **Visibility with X-ray** is high and can be used as a radiation treatment marker
- 6) Is **inexpensive** compared to the precious metal (platinum) used for medical



Investigating applications for orthopedic medical devices

NPR and Sophia University are conducting a joint investigation

By applying NiFreeT to orthopedic medical devices, the aim is to reduce the burden placed on bones when implanting devices in the body

Children's bones are soft and grow on a daily basis, so it reduces the burden placed on the body through a Young's modulus that is close to that of human bones

For the future, is formulating a plan with an eye to collaborations and joint research with hospital staff and clinical researchers

Source: The Company's results briefing materials

6. Risk factors and earning characteristics

A risk factor is that the number of vehicles produced may decrease due to changes in demand and the impact of infectious diseases, disasters, and other factors. However, in the medium term, the global automobile market will grow, due in part to vehicle use expanding in emerging countries. So rather than a change in the number of vehicles produced, a risk factor for the Company at the current time is the impact of medium- to long-term environmental regulations (greater fuel efficiency of gasoline engines, declining use of gasoline engines, increased use of new clean fuel engines, spread of electric vehicles, etc.). The Company anticipates that the probability that widespread use of electric vehicles will quickly increase is low. Its policy is to develop technologies for the evolution of the automobile engine, including responses to the further improved fuel performance of gasoline engines and new clean fuel engines. In addition, based on the trend of the gradual spread of electric vehicles, it is also working to increase sales for non-automobile engines through new products and businesses.

Regarding competition risk, only a limited number of manufacturers can globally supply high-quality piston rings and valve seat inserts. So, the market structure is that fluctuations in share are comparatively small in the context of the integration of auto manufacturers and their acquisitions of companies to join their respective groups. Furthermore, as the Company provides a wide range of products to the world's leading automobile manufacturers, the risk of it relying on a specific automobile manufacturer is small.

Results trends

In the 1H FY3/22 results, sales increased by double digits and every profit item became profitable. Orders also trended at a level higher than forecast

1. Outline of results for 1H FY3/22

In the 1H FY3/22 consolidated results, net sales increased 29.9% YoY to ¥25,497mn, operating income was ¥1,731mn (compared to a loss of ¥1,487mn in the same period in the previous fiscal year), ordinary income was ¥1,858mn (loss of ¥1,249mn), and net income attributable to owners of parent was ¥1,277mn (loss of ¥1,944mn). Additionally, the average exchange rates during the period were ¥107.82 to US\$1 (¥108.23 in the same period in the previous fiscal year) and ¥129.89 to 1 euro (¥119.31). From the start of the 1Q FY3/22, the Company adopted the Accounting Standard for Revenue Recognition (ASBJ Statement No. 29, March 31, 2020), but this had no effect on results.

Outline of results for 1H FY3/22

	1H FY3/21		1H FY3/22		YoY	1Q FY3/22	2Q FY3/22
	Results	%	Results	%		Results	Results
Net sales	19,629	100.0%	25,497	100.0%	29.9%	13,010	12,487
Products for Automobiles Business	16,665	84.9%	21,848	85.7%	31.1%	11,264	10,584
Products for Marine Engines and Other Products Business	1,013	5.2%	1,269	5.0%	25.3%	601	668
Others	1,951	9.9%	2,379	9.3%	22.0%	1,143	1,236
Gross profit	2,725	13.9%	6,144	24.1%	125.5%	3,241	2,903
SG&A expenses	4,213	21.5%	4,413	17.3%	4.7%	2,170	2,243
Operating income (loss)	-1,487	-7.6%	1,731	6.8%	-	1,071	660
Products for Automobiles Business	-1,269	-7.6%	1,527	7.0%	-	983	544
Products for Marine Engines and Other Products Business	-14	-1.4%	386	30.4%	-	209	177
Others	10	0.5%	88	3.7%	780%	4	84
Adjustment	-213	-	-271	-	-	-125	-146
Ordinary income	-1,249	-6.4%	1,858	7.3%	-	1,196	662
Net income (loss) attributable to owners of parent	-1,944	-9.9%	1,277	5.0%	-	765	512
Exchange rate							
US\$/¥	108.23	-	107.82	-	-	-	-
Euro/¥	119.31	-	129.89	-	-	-	-

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

Demand in the automotive industry to which the Company is related recovered from the rapid decrease in the same period in the previous fiscal year due to the impact of COVID-19, and the number of vehicles produced globally increased. However, presently manufacturers are being forced to adjust production due to the shortage of in-vehicle semiconductors and the stagnation of the supply of parts. Yet even in this situation, sales increased by double digits as the Company was able to capture demand in conjunction with market trends.

Results trends

In profits, every profit item became profitable as a result of increased production and the Company's continued efforts to reduce costs and keeping down fixed costs. Gross profit increased 125.5% YoY and the gross profit margin rose 10.2 percentage points (pp) to 24.1%. Moreover, the increase in SG&A expenses was only 4.7% and the SG&A expenses ratio improved 4.2 pp to 17.3%. On analyzing the factors affecting ordinary income, increasing factors were ¥2.33bn from increased production, ¥390mn from cost reductions, ¥220mn from a decrease in labor costs, ¥190mn from exchange rates (mainly the effects of the weak yen against the euro), and ¥160mn from a decrease in various other costs. Decreasing factors were ¥70mn from rising raw material prices and ¥110mn from a decrease in the non-operating balance. The increases in raw material prices are passed on to product prices, but this still represents a profit-decline factor as recovery was delayed for about half a year. Also, the decline in the non-operating balance was mainly due to a decrease in the employment adjustment subsidy amount that was provided in the previous fiscal year as a response measure to the COVID-19 pandemic.

Looking at how results trended by fiscal quarter, net sales were ¥13,010mn in the 1Q and ¥12,487mn in the 2Q, and operating income was ¥1,071mn in the 1Q and ¥660mn in the 2Q. Of these amounts, in the Products for Automobiles Business, net sales were ¥11,264mn in the 1Q and ¥10,584mn in the 2Q, and operating income was ¥983mn in the 1Q and ¥544mn in the 2Q. This was because results in the 2Q were affected by the production adjustments due to the shortage of in-vehicle semiconductors and the stagnation of the supply of parts. Nevertheless, at FISCO, we think that these effects will be temporary.

Results by segment were as follows.

(1) Products for Automobiles Business

The Products for Automobiles Business was impacted by the suspension of operations of auto manufacturers due to the shortage of in-vehicle semiconductors. Even so, net sales increased 31.1% YoY to ¥21,848mn and operating income was ¥1,527mn (compared to a loss of ¥1,269mn in the same period in the previous fiscal year), mainly due to an increase in the number of vehicles produced globally. As for the composition of total net sales by region, Japan provided 36.6%, Asia 29.7%, Europe 11.6%, North America 12.6%, and other regions 9.5%.

(2) Products for Marine Engines and Other Products Business

In the Products for Marine Engines and Other Products Business, net sales increased 25.3% YoY to ¥1,269mn, including due to growth in demand for products used for industrial equipment, while operating income was ¥386mn (compared to a loss of ¥14mn in the same period in the previous fiscal year).

(3) Others

In Others, which includes the merchandise sales business, net sales increased 22.0% YoY to ¥2,379mn and operating income rose 780% to ¥88mn.

2. Financial condition

At the end of 1H FY3/22, total assets had increased ¥3,396mn compared to the end of the previous fiscal period to ¥65,205mn. Main items included increases in cash and deposits, inventory assets, and investment securities and decreases in intangible non-current assets. Of these items, the Company is continuously working to strategically optimize inventory assets with an awareness of the supply chain as a whole. Total liabilities increased ¥251mn to ¥31,792mn, which was mainly due to increases in notes and accounts payable - trade and electronically registered obligations and decreases in interest-bearing debt. Total net liabilities increased ¥3,145mn to ¥33,412mn, primarily because of increases in foreign currency translation adjustment, retained earnings, and valuation difference on available-for-sale securities.

Results trends

As a result, the equity ratio improved 2.2 pp compared to the end of the previous fiscal year to 48.6%. Interest-bearing debt also decreased and there are no particular financial concerns for the Company and it can be said to be maintaining its fiscal soundness.

Consolidated balance sheet

	(¥mn)				
	FY3/19	FY3/20	FY3/21	1H FY3/22	Change
Total assets	65,793	63,608	61,809	65,205	3,396
Current assets	28,489	27,623	26,131	28,776	2,645
Non-current assets	37,304	35,985	35,678	36,429	751
Total liabilities	33,298	32,319	31,541	31,792	251
Current liabilities	23,001	22,050	19,254	20,805	1,551
Non-current liabilities	10,296	10,269	12,287	10,987	-1,300
Net assets	32,495	31,289	30,267	33,412	3,145
Shareholders' equity	30,189	29,950	28,299	29,458	1,159
Equity ratio	47.4%	46.9%	46.4%	48.6%	2.2pt

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

Outlook

Has left the upwardly revised FY3/22 results forecasts unchanged, but results may exceed them

● FY3/22 results outlook

For the FY3/22 consolidated results, the Company announced upwardly revised forecasts in August 2021. It is now forecasting an increase of 12.6% YoY in net sales to ¥51,000mn, operating income of ¥2,600mn (compared to a loss of ¥165mn in the previous fiscal year), an increase of 660.6% in ordinary income to ¥2,700mn, and net income attributable to owners of parent of ¥1,700mn (a loss of ¥813mn). Reasons for the upward revision in forecasts include orders trending higher than forecast (despite taking into account the expected effects of COVID-19 and the shortage of in-vehicle semiconductors), progress in cost-reduction activities and a weak yen compared to the expected exchange rates. The expected exchange rates are ¥105.00 to US\$1 (¥106.76 in the previous fiscal year) and ¥125.00 to 1 euro (¥121.88).

Consolidated outlook for FY3/22

	FY3/21		FY3/22			
	Results	% of net sales	Initial forecast	Revised forecast	% of net sales	YoY
Net sales	45,276	100.0%	50,000	51,000	100.0%	12.6%
Operating income (loss)	-165	-0.4%	2,100	2,600	5.1%	-
Ordinary income	355	0.8%	2,100	2,700	5.3%	660.6%
Net income (loss) attributable to owners of parent	-813	-1.8%	1,300	1,700	3.3%	-
Exchange rate						
US\$/¥	106.76	-	105.00	-	-	-
Euro/¥	121.88	-	125.00	-	-	-

Note: The FY3/22 forecasts are the upwardly revised forecasts announced in August 2021
 Source: Prepared by FISCO from the Company's financial results

Outlook

As demand has been recovering from the rapid decline caused by COVID-19 in the previous fiscal year and the number of vehicles produced globally is increasing in the automotive industry to which the Company is related, and the Company is working to reduce costs and keep down fixed costs on the profit front, it forecasts an increase in sales and a significant increase in profits. On analyzing the factors affecting ordinary income, increasing factors were ¥1.95bn from increased production, ¥900mn from cost reductions, ¥250mn due to exchange rates (mainly the effects of the weak yen against the euro), and ¥60mn from a decrease in various other costs. Decreasing factors were ¥400mn from rising raw material prices and ¥420mn from a decrease in the non-operating balance.

Exchange rate sensitivity (the amount that operating income is affected by a ¥1 fluctuation in an exchange rate) is approximately ¥28mn for the euro-yen rate, but is much lower for the dollar-yen rate at around ¥5mn due to the progress made in local production. The forecasts are for capital investment of ¥4bn (¥2.7bn in the previous fiscal year), depreciation expenses of ¥4.1bn (¥4bn), R&D expenses of ¥1.8bn (¥1.6bn), and a ratio of R&D expenses to net sales of 3.5% (3.6%). In FY3/21, the Company kept down capital investment in consideration of the impact of COVID-19, but it intends to return it to the previous level in FY3/22 and had initially planned investment of ¥4.7bn. However, the outlook is now for investment of ¥4bn as installation of some equipment have been pushed back to the next fiscal year due to stagnation of parts procurement at equipment manufacturers and the impact of production adjustments at auto manufacturers. The Company is prioritizing investment that is expected to have effects, such as investment in automation, labor saving, and R&D in Japan and mainly new and increased production in China. It is actively allocating R&D expenses to differentiating existing products and developing new products and businesses.

As of the 2Q, the Company had left unchanged the upwardly revised forecasts announced in August 2021, taking into consideration that presently auto manufacturers are being forced to adjust production due to the shortage of in-vehicle semiconductors, stagnation of the supply of parts, and rising raw material prices, and has made excellent progress toward achieving the forecasts for the full fiscal year, particularly for profit items including 50.0% for net sales, 66.6% for operating income, 68.8% for ordinary income, and 75.1% for net income attributable to owners of parent. On considering other factors as well, such as that the yen is trending weaker than anticipated, at FISCO we think it is highly likely that results will be higher than forecast.

Growth strategy

In The Next NPR 2030 long-term vision, is aiming for non-automobile sales to provide at least 40% of net sales in FY3/31

1. Long-term vision and 8th Medium-term Management Plan

The Company formulated The Next NPR 2030 long-term vision before formulating its 8th Medium-term Management Plan (FY3/22 to FY3/24), in order to respond to the major changes to the business environment surrounding the automobile industry, including those related to exhaust gas regulations (the CO₂ problem), the New Normal (COVID-19), the spread of EVs (Electric Vehicles), and the progress of CASE. The numerical targets for FY3/31 are net sales of ¥100bn, an operating income margin of at least 10%, for non-automobile sales to provide at least 40% of net sales, and a reduction of CO₂ emissions of 46% (compared to FY3/14).

Growth strategy

The Company did not achieve the numerical targets in the 7th Medium-term Management Plan (with FY3/21 as the final fiscal year, net sales of at least ¥58bn and an operating income margin of at least 7.5%) due to the severe changes in the business environment, including U.S.-China trade friction and COVID-19. However, in the 8th Medium-term Management Plan announced in May 2021, as the stage of building a foundation toward realizing the targets in the long-term vision, it has set the numerical targets for FY3/24 of net sales of at least ¥54bn, an operating income margin of at least 8%, for non-automobile sales to provide at least 15% of net sales, and a reduction of CO₂ emissions of 25% (compared to FY3/14).

Numerical targets

	8th Medium-term Management Plan FY3/24	The Next NPR 2030 FY3/31
Net sales	At least ¥54bn	At least ¥100bn
Operating income margin	At least 8%	At least 10%
Percentage of net sales from non-automobile sales	At least 15%	At least 40%
CO ₂ emissions (compared to FY3/14)	-25%	-46%

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

2. Market environment

The global automobile market is forecast to grow in the medium term, due in part to vehicle use expanding in emerging countries. For the Company, an issue will be responding to the effects of medium- to long-term environmental regulations (greater fuel efficiency of gasoline engines, declining use of gasoline engines, increased use of new clean fuel engines, spread of electric vehicles, etc.).

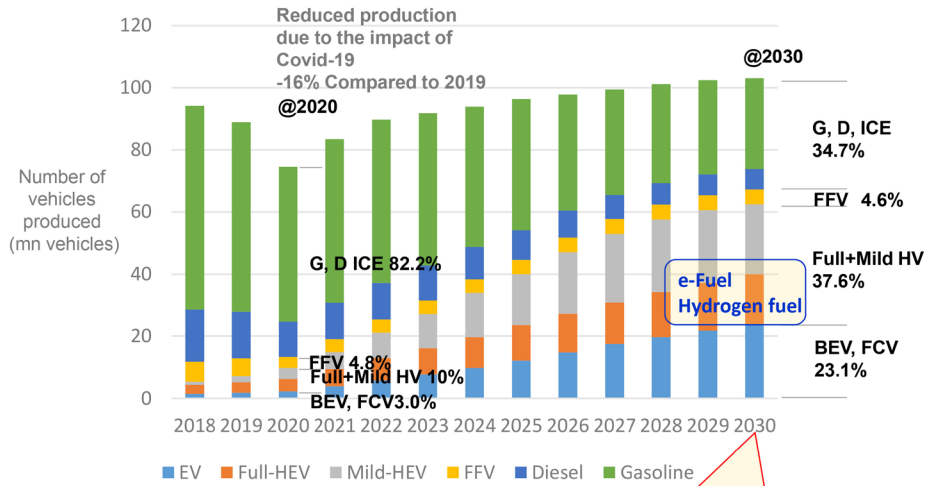
Looking at the long-term outlook up to 2030 for the number of vehicles produced by power train, based on IHS data, the Company anticipates that by 2030, the ratio of powertrains equipped with an engine will be approximately 77%. As some auto manufacturers have declared that they will convert entirely to EVs (Electric Vehicles), the ratio of battery-type EVs will gradually increase. However, it is expected that as of 2030, the ratio of existing ICEs (Internal Combustion Engines) will remain at slightly more than 30%, and moreover, that adoption of HVs (Hybrid Vehicles) with improved fuel efficiency, clean e-fuel vehicles that use renewable energy such as hydrogen to create fuel, and FFVs (flexible-fuel vehicles) will also newly spread.

On the other hand, when comparing the CO₂ exhaust emissions of EVs to the CO₂ exhaust emissions of HVs that use clean e-fuel such as hydrogen to improve fuel efficiency, the likelihood of EVs advancing immediately is low as their superiority in terms of CO₂ emissions will decrease under the current power generation mix in Japan, and they are expected to survive and remain in developed countries. In May 2021, Toyota Motor's vehicle installed with a clean hydrogen engine participated in and completed the Super Durable Series 2021 Powered by Hankook 3rd NAPAC Fuji SUPER TEC 24-Hour Race, thereby appealing for the hydrogen engine to be one choice for a new clean fuel vehicle toward the carbon-neutral era.

Growth strategy

Market trends (configuration by powertrain)
Number of vehicles produced by powertrain
(Light vehicles of less than 6 tons)

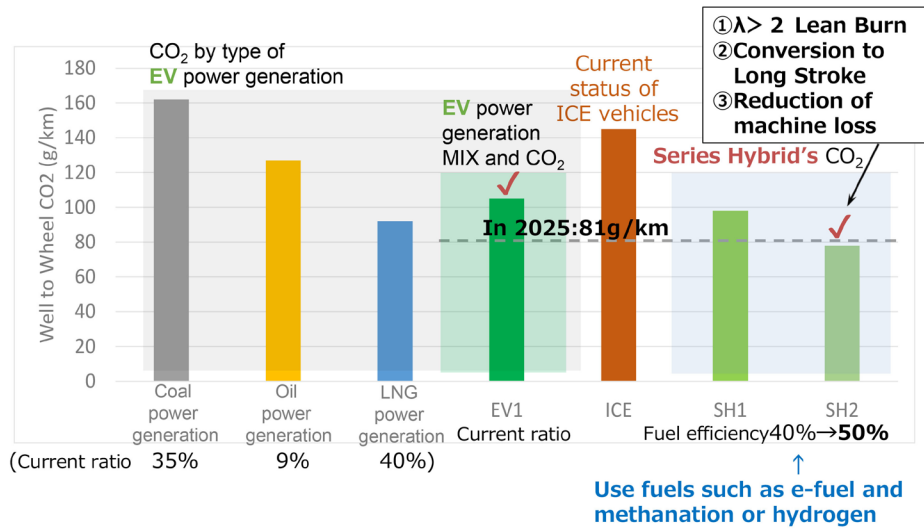
Data: IHS, May 2021



VOLVO completely converting to EV
VW 60% conversion to EV
MINI completely converting to EV...

Source: The Company's results briefing materials

Engine possibilities



Source: The Company's results briefing materials

Growth strategy

In response to this sort of business environment and toward strengthening its core business foundation, the Company’s policy is to improve the fuel performance of the gasoline engine and respond technologically to the shift to clean vehicles and the evolution of the engine due to new clean fuels such as hydrogen, and to further improve quality and reduce costs. In addition, based on the gradual spread of EVs, it is focusing on increasing non-automobile engine sales through new products and businesses.

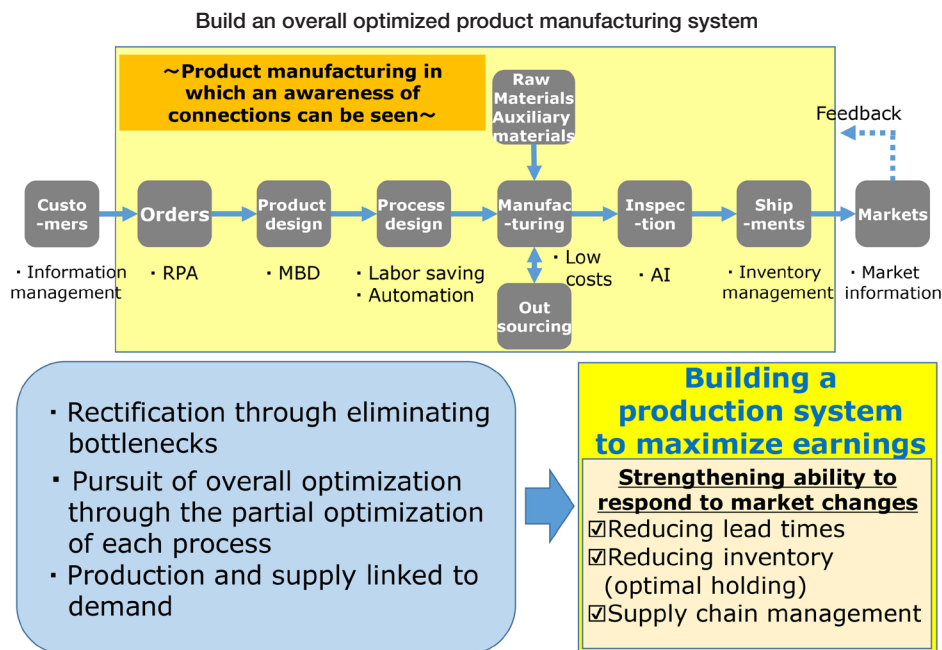
3. Priority measures

In the 8th Medium-term Management Plan, the Company has set “Change as Chance” (finding opportunities within change) as its basic policy and its action guidelines to be “The New 5S” (Speed = speed of responding to changes; Skill = skill for planning and executing strategy; Science = making decisions scientifically based on data; Spirit = enthusiasm to want to improve the organization; Safety = a safe and secure working environment and safety awareness).

The Company has also set the five priority measures of (1) build an overall optimized product manufacturing system, (2) promote technical solution proposal-oriented sales by utilizing core technologies and products, (3) strengthen the development and creation of new products and businesses, (4) conduct structural reforms of people and organizations (awareness reforms), and (5) take a leap forward toward becoming a sustainable company.

(1) Build an overall optimized product manufacturing system

Through an awareness of the supply chain as a whole, including from raw materials procurement through to market information, the Company is aiming to reduce lead times and inventory, and to build a production system that maximizes earnings by achieving rectification through eliminating bottlenecks, pursuing overall optimization from the partial optimization of each process, and progressing production and supply linked to demand. In relating to this, it newly established the Global Procurement Department in the structural reforms implemented in October 2020.



Source: The Company’s results briefing materials

Growth strategy

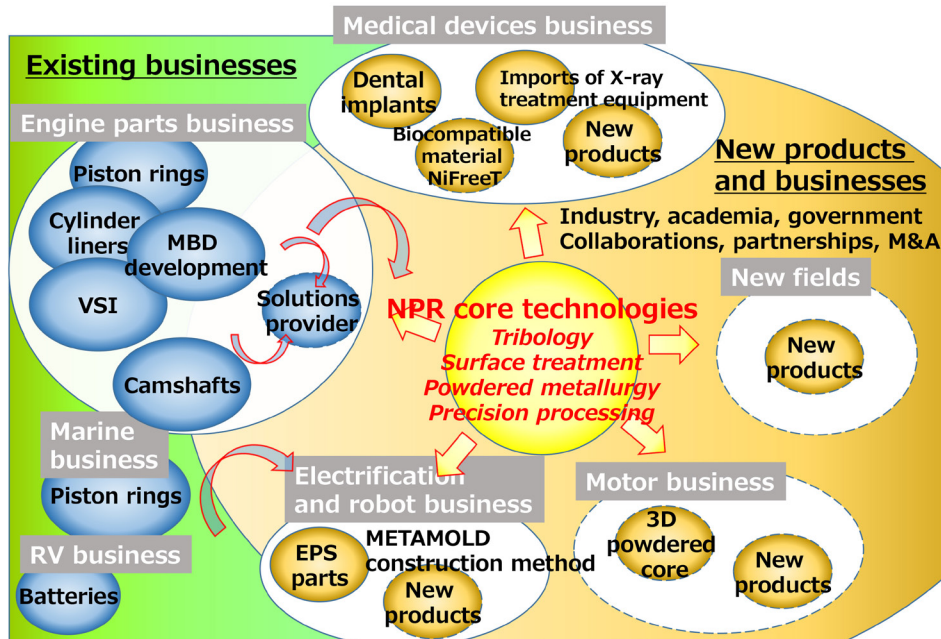
(2) Promote technical solution proposal-oriented sales by utilizing core technologies and products

Previously, the sales and development departments both negotiated with customers separately. However, with the structural reforms implemented in October 2020, the technical negotiation duties of the development departments were transferred to and integrated into the Engineering Sales Department (Engineering Sales Department I supervises domestic sales, and Engineering Sales Department II supervises overseas sales). They are providing solutions to problems such as reducing piston ring friction and valve seat thermal management, and contributing to reducing fuel consumption. Moreover, the aim is to establish a model-based design and to be a solution provider that undertakes design evaluations.

(3) Strengthen the development and creation of new products and businesses

Toward increasing sales for non-automobile engines, the Company is utilizing its core technologies, and promoting development of new products and businesses centered on the electrification and robot business, medical devices business, and motor business. In particular, in the industrial equipment field, it is increasing sales of METAMOLD products, and in the medical field, it is creating products and a business for NiFreeT, which is a new biocompatible material of a titanium-tantalum alloy. It is also working on initiatives such as developing an axial gap-type motor with a powdered core. In the structural reforms implemented in October 2020, it integrated the METAMOLD Business Promotion Department and New Products Business Development Department in order to increase the speed at which work is progressed.

Strengthen the development and creation of new products and businesses



Source: The Company's results briefing materials

(4) Conduct structural reforms of people and organizations (awareness reforms)

With the aim of cultivating a corporate structure, organization and people that can change alongside the environment, the Company is promoting business structural reforms (optimizing procurement from a global perspective, promoting reforms and abolitions of products, and DX (Digital Transformation)), organizational reforms (merging domestic subsidiaries; newly establishing, integrating and abolishing organizations; and transitioning to becoming a company with an audit and supervisory committee), and awareness reforms (reforming workstyles and converting to job-based employment, conducting open innovation, and realizing diversity).

Growth strategy

Specifically, for example with regards to awareness reforms, it is improving work efficiency by introducing technologies such as IoT and RPA, at the same time as promoting workstyle reforms with increased “job satisfaction,” supporting the activities of senior and female employees, and establishing environments in which employees can work with job satisfaction, and it considered that these efforts are leading to an improvement in employees’ work engagement.

(5) Take a leap forward toward becoming a sustainable company

For its initiatives toward the SDGs as important issues that the Company will tackle as a priority from among the various issues that exist in society, it has specified co-existing with the global environment (contributing to the environment through products and in business activities), co-existing with stakeholders (improving customer satisfaction, employee safety and health, and realizing diversity), and building a foundation for sustainable growth (respecting human rights, corporate governance, and compliance), and it is conducting activities toward realizing a sustainable society.

Taking a leap forward toward becoming a sustainable company



Source: The Company's results briefing materials

Specifically, for contributing to the environment through products, the Company is developing products that will contribute to improving consumption by 1.5%, while for contributing to the environment in business activities, the Company is working to reduce CO₂ emissions. Furthermore, in March 2021, the Company was certified under Excellent Health Management Corporation 2021 (large-scale corporations section) in the Excellent Health Management Corporations Certification System initiated by the Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi. This is the second time it has been certified, following on from last year. Moreover, as initiatives to strengthen corporate governance, it established a nomination and remuneration advisory committee in June 2020, and transitioned to being a company with an audit and supervisory committee in June 2021.

Growth strategy

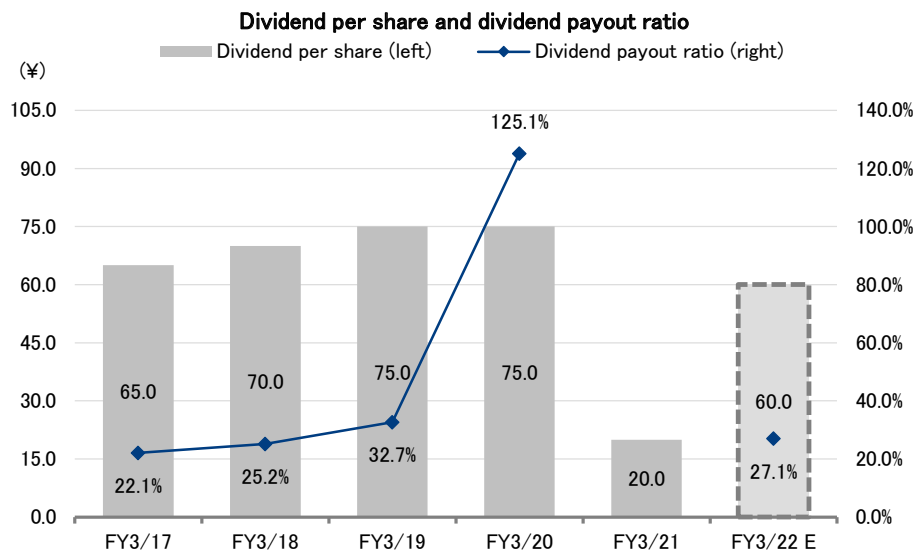
In addition, in August 2021, the Company developed cobalt-free valve seat inserts that do not use cobalt as a raw material. It previously used cobalt as a material for valve seat inserts in order to improve abrasion resistance. As background to this new product, being an essential material for batteries used in electric vehicles, cobalt's market price is soaring, and it's a resource that presents many issues including from the sustainability perspective, such as risks related to responsible mineral procurement as it is a rare metal. By developing cobalt-free valve seat inserts, the Company has been able to ensure the same level of functionality as before without having to rely on cobalt. It is working to increase sales of this product, and at the same time its policy going forward is to continue to actively conduct measures to respond to environmental, human rights, and other social issues and contribute to building a sustainable society.

Furthermore, in October 2021, the Company newly established the Sustainability Promotion Office. Previously, various measures toward realizing a sustainable environment and society were progressed centered on the CSR Promotion Committee. However, in order to further strengthen these measures, it established the Sustainability Promotion Office within the Corporate Planning Department as a specialist organization to plan and progress the execution of sustainability-related operations.

Shareholder return policy

The Company considers appropriately and stably returning profits to shareholders to be its most important management issue, and it does so after comprehensively considering factors such as results trends and business development in the future. In accordance with this basic policy, it is forecasting an annual dividend of ¥60.0 for FY3/22 (interim dividend of ¥20.0, period-end dividend of ¥40.0), an increase of ¥40.0 YoY. The basic dividend policy set out in the 8th Medium-term Management Plan is to stably pay a dividend in accordance with results, while ensuring a consolidated dividend payout ratio of around 30% or higher.

Also, in August 2020, the Company acquired 150,000 treasury shares with the aim of flexibly executing capital policies in the future in response to changes to the business environment.



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

In relation to the revision of new market categories for the TSE planned for April 2022, the Company submitted an application to be selected for the Prime Market in November 2021. As a result of the primary judgement of compliance with the standards to maintain a listing, the Company was notified that the market capitalization of its tradable shares as of the transition date (June 30th of the same year) did not meet the standard for the Prime Market. Therefore, it formulated the Plan to Meet the Standards to Maintain the Listing in the New Market Categories with the aim of meeting the standards and maintaining its listing on the Prime Market while applying transitional measures. By steadily executing the priority measures set out in the 8th Medium-term Management Plan and making results visible, it is aiming to improve its corporate value (improve the market capitalization of its tradeable shares) and thereby meet the standards to maintain a listing on the Prime Market.



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