

Past Medium-Term Management Plans

Medium-Term Management Plan (FY2012-FY2014)

Management Policy

- Position quality and safety as the foundation of business operations
- Reflect needs of the market (customers) in product development and expand sale of new products
- Become a group that faces the needs of the market (customers) head-on and responds accordingly
- Bolster business of all major products

Business Strategy

- Continuously upgrade technologies and skills (strengthen core technologies)
- Enhance product appeal with technologies and skills (expand product variation)
- Raise competitiveness of actuators
- Implement sales expansion strategy in the Asian market

Achievements and Challenges

Net sales for industrial robots showed significant growth, and net sales for Asia rapidly increased roughly three-fold over the three-year period. Results fell slightly short of numerical targets, but net sales, operating income, and operating income to net sales ratio all reached all-time highs, with operating income to net sales ratio achieving 27.2%. Also, ROE stood at 14.7%.

Items	FY2014 Management targets	FY2014 Results
Net sales	¥26.0 billion	¥25.9 billion
Operating income	¥7.5 billion	¥7.0 billion
Operating income to net sales ratio	28.8%	27.2%
Dividend payout ratio and dividends per share	–	27.2% (¥29/share)
Capital investment (3-year total)	–	¥5.1 billion
Depreciation and amortization (3-year total)	–	¥3.5 billion
R&D expenditure (3-year total)	–	¥3.6 billion

Medium-Term Management Plan (FY2015-FY2017)

Management Policy

- Aim for a business foundation supported by the three product groups
- Reinforce the competitiveness and business foundation of the three main product groups
- Develop the Asian market and create a business foundation

Business Strategy

- Find new applications for HarmonicDrive® Speed Reducers and launch new products in the market
- Actively launch new mechatronics products
- Capture overseas markets for precision planetary speed reducers
- Actively expand sales in the Asian market
- Improve organizational strength and develop human resources

Achievements and Challenges

Net sales and operating income have cleared numerical targets by a wide margin and set new records. A rapid growth in demand globally for industrial robots and the conversion of a German affiliate company into a subsidiary were contributing factors. However, the operating income to net sales ratio figure ended short of the plan. This was mainly attributable to the fact that against a three-year plan for aggregate capital investment of ¥10 billion, the actual figure reached ¥17.6 billion, and the burden of depreciation and amortization expanded from the planned ¥6 billion to ¥9.1 billion. Issues remained with regard to production capacity and stable supply.

Items	FY2017 Management targets	FY2017 Results
Net sales	¥35.0 billion	¥54.3 billion
Operating income	¥9.5 billion	¥12.5 billion
Operating income to net sales ratio	27.1%	23.2%
Dividend payout ratio and dividends per share	–	31.5% (¥26/share)
Capital investment (3-year total)	¥10.0 billion	¥17.6 billion
Depreciation and amortization (3-year total)	¥6.0 billion	¥9.1 billion
R&D expenditure (3-year total)	¥4.8 billion	¥4.9 billion

Medium-Term Management Plan (FY2018-FY2020)

Management Policy

- Significantly raise global production capacity
- Raise capabilities of group companies to strengthen all-around abilities
- Increase customer satisfaction by raising QCDS capabilities
- Strengthen management foundation to support future growth
- Lay groundwork for growth in the future

Business Strategy

- Raise production capacity and achieve improvements in productivity
- Carry out greater investment in the main production bases and bolster comprehensive capabilities
- Normalize and reduce production lead times, launch new products, and strengthen the support system for technology proposal capability
- Secure and develop human resources, utilize IT, promote management that takes ESG into account

Achievements and Challenges

In steadily implementing the business strategy, cutbacks in capital investment worldwide for manufacturing industry due to factors such as US-China trade friction, in addition to declining advance orders as a result, and further, a sharp decline in capital investment with the global spread of COVID-19 became evident, resulting in considerably underperforming against numerical targets. While keeping the capital investment plan under restraint, the groundwork for growth looking toward 2030- 2050 was being firmly laid.

Items	FY2020 Management targets	FY2020 Results
Net sales	¥100.0 billion	¥37.0 billion
Operating income	¥26.0 billion	¥0.8 billion
Operating income to net sales ratio	26.0%	2.3%
Dividend payout ratio and dividends per share	–	290.6% (¥20/share)
Capital investment (3-year total)	¥71.0 billion	¥33.7 billion
Depreciation and amortization (3-year total)	¥25.5 billion	¥21.6 billion
R&D expenditure (3-year total)	¥9.4 billion	¥7.1 billion

Past Medium-Term Management Plans

Previous Medium-Term Management Plan (FY2021-FY2023)

Management Policy

Long-term Vision

In pursuit of total motion control

- Take on the challenge of developing new technologies and skills that capture changes in the environment
- Achieve QCDS that goes beyond customer expectations
- Contribute to creating a sustainable society through corporate activities

Initiatives implemented and their results

[investment in property]

- Increased facility's capacity at the Ariake Factory (40,000 units for industrial machines and 30,000 units for automobiles)
 - ➔ Productivity per worker is now more than twice that of the conventional line
- Promoted DX in the factory

[investment in human resources]

- Improved operations with "waste elimination" as the keyword
- Promoted multi-skilling of workers
- Further improved workers' skills

Expected investment results in fiscal 2024 and beyond

- Improvement in abilities to meet delivery deadlines
- Productivity improvement (Productivity per worker to be more than three times that of the conventional production line at the Ariake Factory)
- Sustainable supply chain system and quality maintenance during production expansion
- New products and applications will contribute to net sales
- Increase cost competitiveness

Basic Policy

Toward the Next 50 Years: Moving to a Solid Growth Stage

- (1) Achieve QCDS that meets customer expectations
- (2) Expand RD, AD, and MT businesses by developing valuable products and enhancing services
- (3) Build a management foundation that meets the demands of the times
- (4) Strengthen coordination and maximize synergies with overseas group companies and institutions
- (5) Create new standards that define the next 50 years through outside-the-box thinking

Increase our capabilities to respond to our customers' issues

- Discover new needs
- Absorb insights of different industries, advisers, and outside research institutions
- Develop new products applying the latest light-weighting technologies and methods
- Develop HarmonicDrive® with builtin torque sensor
- Adopt local content
- Maintain and improve "universal quality"



Operating results

We set numerical targets such as net sales of ¥70.0 billion, operating profit of ¥15.0 billion (operating profit to net sales ratio of 20% or more), ROE of 10% or more, equity ratio of 70% or more, and dividend payout ratio of 30% or more for FY2023, the final fiscal year.

Regarding financial results for FY2022, net sales reached ¥71.5 billion, exceeding the numerical target, driven by the emergence of post-COVID-19 pent-up demand. However, operating profit was ¥10.2 billion, operating profit to net sales ratio was 14.3%, and ROE was 7.5%, against the backdrop of more aggressive capital and R&D investments than our plan, as well as securing human resources and strengthening investment in human resources.

Regarding financial results for FY2023, net sales were ¥55.7 billion and operating profit was ¥0.1 billion (operating profit to net sales ratio was 0.2%), against the backdrop of deteriorating external environment such as the slowdown of the Chinese economy, sluggish capital investment in semiconductors, and prolonged inventory adjustment at industrial robots manufacturers. In addition, we recorded impairment loss on intangible assets (goodwill, customer related assets, and technical assets) of Harmonic Drive SE, our consolidated subsidiary, resulting in ROE of -27.1%.

Equity ratio as of the end of FY2023 was 66.6%, slightly below the numerical target but stable at a high level. As for shareholder returns, we paid dividends that exceeded our commitment to a dividend payout ratio.

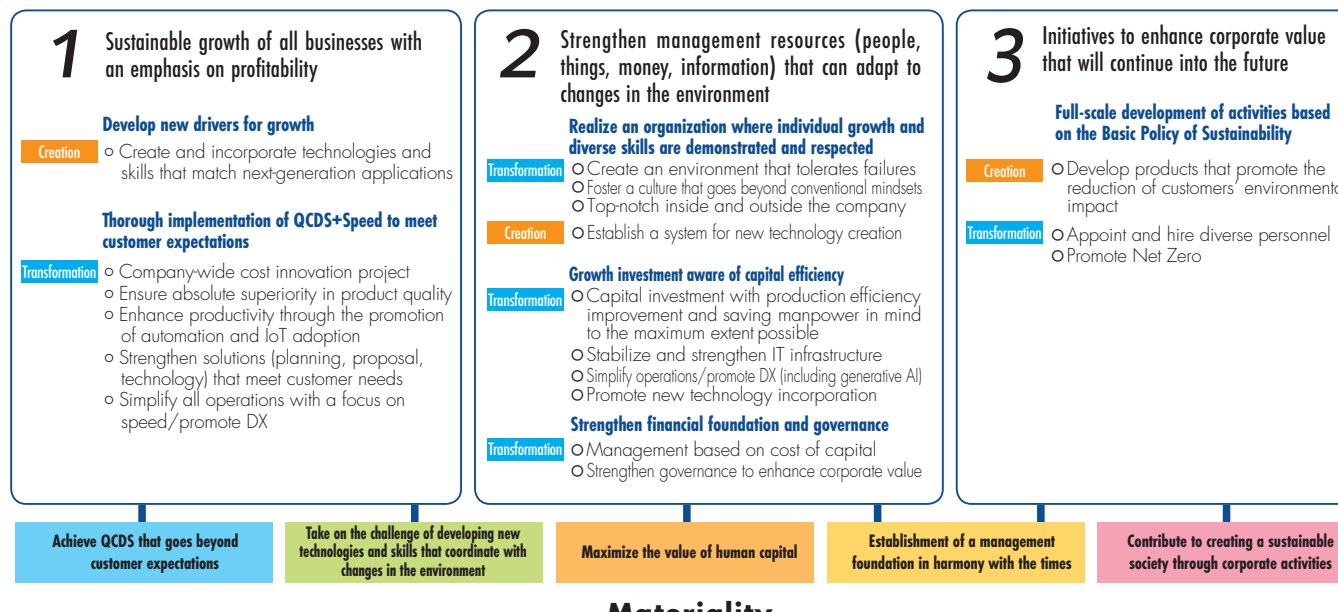
Items	Previous Medium-Term Management Plan				
	FY2021 Results	FY2022 Results	FY2023 Results	FY2023 (Final Year of the Medium-Term Management Plan) Management Targets	
Net sales	¥57.0 billion	¥71.5 billion	¥55.7 billion	¥70.0 billion, 24% CAGR	Tie market expansion to our growth
Operating profit	¥8.7 billion	¥10.2 billion	¥0.1 billion	¥15.0 billion	Improve profitability by providing high value products
Operating profit to net sales ratio	15.3%	14.3%	0.2%	20+%	Improve profitability by providing high value products
ROE	6.6%	7.5%	-27.1%	10+%	ROE > Cost of equity
Equity ratio	69.0%	67.4%	66.6%	70+%	Build a financial base that balances growth and stability
Dividend payout ratio	30.4% (¥21/share)	35.1% (¥28/share)	-% (¥20/share)	30+%	Maintain stable dividends
Capital investment	¥5.6 billion	¥9.2 billion	¥4.9 billion	¥15.0 billion (3-year total)	Lay out capital investments to support our growth
R&D expenditure	¥3.0 billion	¥3.2 billion	¥3.6 billion	¥9.0 billion (3-year total)	Create new technologies and skills

I Medium-Term Management Plan for fiscal years 2024-2026

Medium-Term Management Plan (FY2024-FY2026) Take on the Challenge of “Value Creation and Transformation”

Basic Policy

Under our unchanging mission of “to contribute to technological innovation in society by our total motion control technology,” we have formulated new long-term vision, identification of materiality, and Medium-Term Management Plan for fiscal years 2024-2026. In the Medium-Term Management Plan, we are committed to “value creation” to create new value and adapt to technological innovations and new applications, and “transformation” to change conventional structures, common sense, and culture for the future. In order to promote value creation and transformation, we have set three basic policies of “sustainable growth of all businesses with an emphasis on profitability,” “strengthen management resources (people, things, money, information) that can adapt to changes in the environment,” and “initiatives to enhance corporate value that will continue into the future,” and will put them into practice together with materiality linked to them.



Management targets

Items		FY2023	FY2026 (Final Year of the Medium-term Management Plan) Management Targets		Aspirations (2030)
Growth	Net sales	¥55.7 billion	¥90.0 billion	Tie market expansion to the HDS Group's growth	¥100.0+ billion
Profitability	Operating profit to net sales ratio	0.2%	15~20%	Provide high value-added products and reduce costs	20+%
	EBITDA margin	18.8%	20~30%		30+%
Efficiency	ROE	—	10+%	> Cost of equity	10+%
	ROIC※	—	10+%		10+%
Stability	Equity ratio	66.6%	70+%	Build a financial base that balances growth and stability	70+%
Shareholder returns	Dividend payout ratio	¥20/share	30+%	Dividend increase due to financial results expansion	30+%
Capital investment	Capital investment (3-year total)	¥19.8 billion	¥27.5 billion	Lay out capital investments to support the HDS Group's growth	—
Development technologies	Development expenditure (3-year total)	¥9.9 billion	¥12.3 billion	Create new technologies and skills	—

*ROIC = NOPAT (after-tax profit)/return on invested capital (shareholders' equity + interest bearing liabilities)

Medium-Term Management Plan for fiscal years 2024-2026

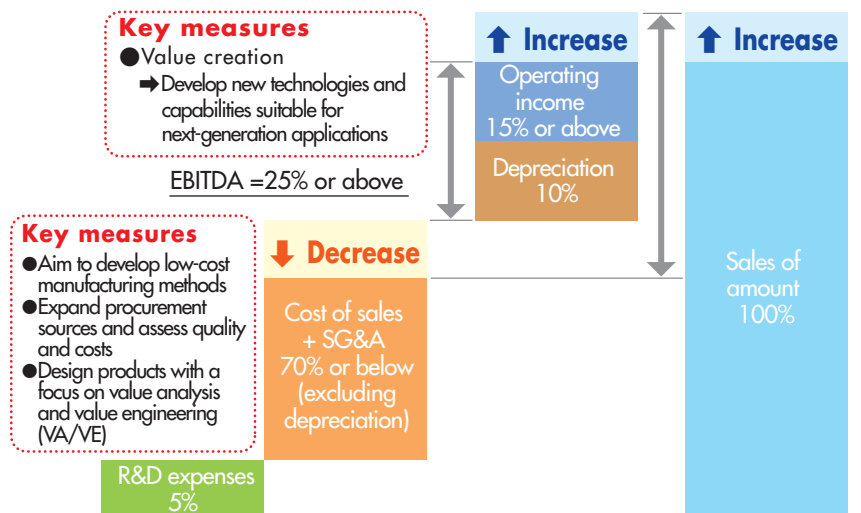
Long-term vision "The best provider of total motion control in harmony with the future"

Priority measures to realize sustainable growth with an emphasis on profitability

Net sales: net sales in FY2026, the final fiscal year of the Medium-Term Management Plan are expected to be ¥90.0 billion due to an increase in sales for existing applications and growth in sales for new applications such as humanoid robots.

Profitability: we aim to achieve operating profit to net sales ratio of 15% or more by controlling cost of sales and selling, general and administrative expenses (SG&A) through newly launched cost innovation project, in addition to a steady implementation of various priority measures set forth in the Medium-Term Management Plan. We will aim to achieve the numerical targets and further increase profitability by steadily implementing product price revisions that appropriately reflect the HDS Group's product value. We plan to make capital investment of ¥27.5 billion during the period of the Medium-Term Management Plan, and aim to achieve EBITDA margin of 25% or more, which is EBITDA (operating profit + depreciation and amortization) divided by net sales.

Profitability Target for FY2026 (Final Year of the Medium-Term Management Plan)

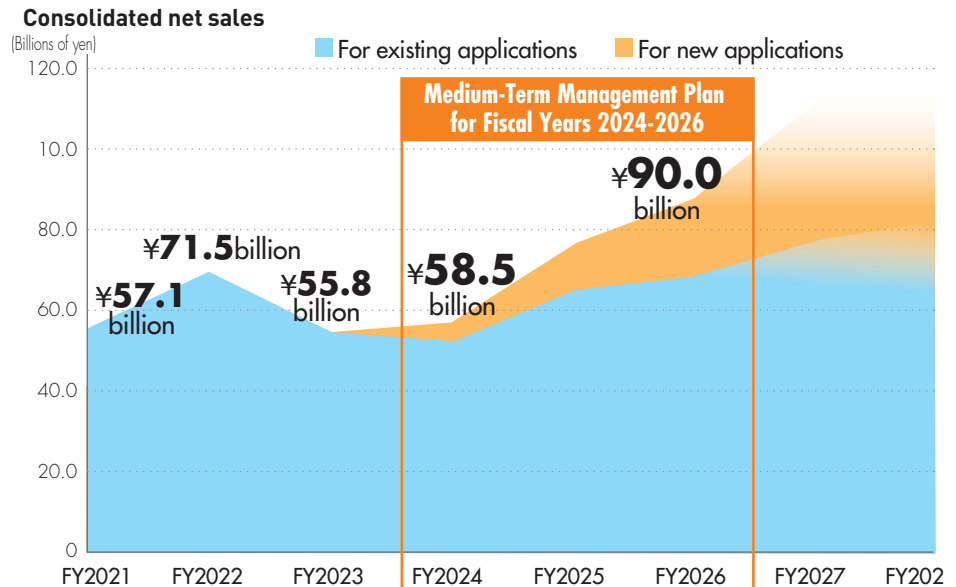


Net sales for new applications will drive growth

For existing applications: net sales for existing applications, mainly for industrial robots, semiconductor manufacturing equipment, and automobiles applications, are expected to steadily recover from FY2025 onward, as inventory adjustment by mainstay industrial robot manufacturers progresses, and we aim to achieve record-high net sales in FY2026.

For new applications: we expect that net sales for new applications including those for space, mobility vehicles, and humanoid robots will enter a growth phase from FY2024 onward. In particular, in the market for humanoid robots, new players have emerged in the U.S., Europe, and China, and other regions, and expectations for growth are rapidly rising. Orders for the HDS Group's compact and high-precision products are also recovering, albeit gradually. We have developed production capacity to meet the demand expansion in the future, and we will aim to achieve our net sales target by strengthening our ability to meet delivery deadlines.

Net Sales Target of the Medium-Term Management Plan for Fiscal Years 2024-2026



I Message from Chief Financial Officer



Representative Director
Senior Managing Executive Officer
General Manager of Finance Accounting, Finance and Tax Division

Kazutoshi Kamijo

We will allocate financial management resources in accordance with changes in the environment to ensure sustainable growth of every businesses in the HDS Group with a focus on profitability, and strive to accurately communicate the group's essential corporate value based on a long-term vision to shareholders and investors.

To raise capital for the investment, we used debt financing and carried out a financial strategy that takes into account Weighted Average Cost of Capital (WACC). This enabled us to obtain advantageous interest rate terms from the financial institution, and personally I think it was a good investment that will lead to improving corporate value over the mid- to long-term.

One issue with the previous Medium-Term Management Plan was that we were unable to keep up with fluctuations in demand, as I mentioned above. Most notably, factory utilization rate changed greatly in a short time. The dramatic change from an extremely busy period to a period of low capacity utilization in those three years had a significant impact on business. This made it clear that we needed to build a production system—both in terms of people and equipment—that can respond

The role of the CFO of the HDS Group

The performance of the HDS Group is greatly impacted by global capital investment trends. Thus, it is relatively volatile, which makes it difficult to determine the suitable production capacity and decide on capital investments. Responding to short-term demand fluctuations is especially difficult, but it is my role and responsibility as Chief Financial Officer to make capital investments at the right timing based on mid- to long-term demand forecasting and to choose and implement the optimal financing method, which includes sources other than cash flows from operating activities, to secure the funds needed for the investment.

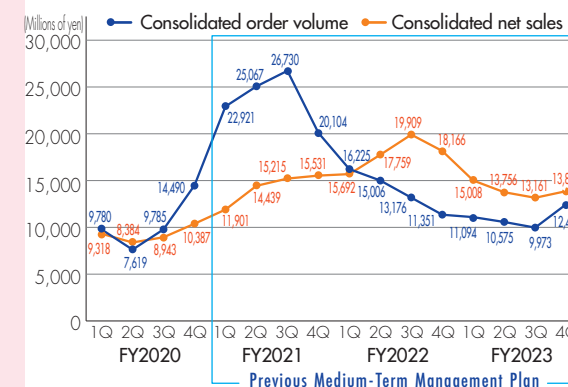
As a listed company, we consider the market capitalization of our stock to be important indicator of corporate value. Theoretically, the corporate value is the future cash flows discounted to their present value, but the reason indicators such as price earnings ratio are evaluated highly, even though fiscal 2024 performance is forecast to remain at a low level, has to do with the expectations for the future growth of shares.

I also serve the important role of correctly understanding the expectations of shareholders and investors, and disclose information and present our growth story in accordance.

Results and Challenges of the Previous Medium-Term Management Plan

The final year of the previous Medium-Term Management Plan was fiscal 2023. Business operations were difficult due to insufficient production capacity and challenges in securing staff in the first two years of the plan. Manufacturing lead time became gradually longer due to a greater-than-expected short-term demand increase, which resulted in advance orders by customers. In response, we invested ¥6.0 billion to expand the production line at Ariake Factory to boost production capacity, but unfortunately the equipment utilization rate remains low today due to the subsequent drop in demand. But from a long-term perspective, I think it was an essential investment. Our efforts at Ariake Factory resulted in a new, more automated production system and important achievements in production technology.

Quarterly Changes in Order Volume and Net Sales



Message from Chief Financial Officer

flexibly to changes in demand.

Furthermore, the impact of the worldwide imbalance in semiconductor supply and demand raised prices and made it difficult to procure electronic parts used in mechatronics products, which made us keenly aware of the need to build a robust supply chain.

Impairment Losses of German Subsidiary and Future Outlook

In the fiscal 2023 consolidated financial results, we recorded ¥28.1 billion in impairment losses on intangible assets related to our German subsidiary Harmonic Drive SE. As the CFO, I take these unfortunate results very seriously. We announce the performance of our main subsidiaries in our financial results briefing materials, and in fiscal 2023 our German subsidiary recorded an operating profit of around ¥2.0 billion—the highest profits in the HDS Group. Despite this, looking back, the main reason for recording the impairment losses was that our expectations at the time of acquisition were too high. In the acquisition of the German subsidiary, we amortized goodwill (which includes customers and technical assets) of about ¥3.0 billion per year, but the subsidiary's operating profit continued to be below this amount for several fiscal years. We had been aware of signs of impairment for several fiscal years and evaluated the possibility of recovery each fiscal year based on the forecasted cash flow in accordance with the remaining recovery period. As a result, we determined that we needed to record an impairment in fiscal 2023.

We use Japanese accounting standards, and amortized goodwill from the acquisition on a straightline basis over 20 years. Based on this, we recorded a depreciation and amortization of around ¥3.0 billion in consolidated selling, general and administrative expenses per year, but we expect this to drop to about ¥1.0 billion from fiscal 2024 thanks to the impairment write-down. Fiscal 2024 was the first year of the current Medium-Term Management Plan, and we expect return on equity (ROE) to improve in part due to the reduction of net assets from the impairment write-down. I believe that recording

the impairment loss has made the HDS Group's balance sheet more sound, and although it was painful to do, I believe that it had a positive effect when considering business operations going forward.

Going forward, we will maintain a sound and robust balance sheet and improve corporate value while taking into account both profitability and capital efficiency.

Financial and Capital Strategy of the Medium-Term Management Plan for Fiscal Years 2024-2026

The basic policy of the Medium-Term Management Plan for fiscal years 2024-2026 is "Take on the Challenge of Value Creation and Transformation." We have laid out three priority measures to actualize this policy: (1) Sustainable growth of all businesses with an emphasis on profitability, (2) Strengthen management resources (people, things, money, information) that can adapt to changes in the environment, and (3) Initiatives to enhance corporate value that will continue into the future. To achieve these, we need an accurate financial and capital strategy and will carry out the following initiatives.

In regard to (1), while we have always emphasized profitability, the current operating profit to net sales ratio has unfortunately decreased compared to the peak in the past and is at a very unsatisfactory level. Recovering profitability is a pressing issue to get closer to the previous level of profit. The utilization rate of our main factories in Japan are now below 50%. This makes it difficult to cover fixed expenses. First we need to increase production volume by recovering order value to raise the factory utilization rate. We already have the equipment and staff needed to increase production for the time being, so I believe it is possible to reap the benefits of increased revenue going forward while keeping the rise in fixed expenses to a minimum. In the event new investments are required, our policy is to select the optimal equipment from a wide range of options, taking into account factors such as performance, cost, and delivery time as a whole. These initiatives are also part of a project that balances value creation and companywide cost cutting, and include IT investments to streamline business

operations and cut costs through digitalization.

In regard to (2), we aim to take full advantage of growth opportunities through effective use of management resources. In particular, the expansion of the humanoid robot market holds the potential for dramatic growth going forward. As the HDS Group is a parts manufacturer, I believe that if we remain committed to taking on challenges with customers to contribute to their technological innovation, it will serve as a foundation for the growth of the HDS Group. As the CFO, I must accurately allocate management resources and serve the role of formulating multiple plans on investment, timing, and profitability in collaboration with business divisions, and execute said plans while managing risks.

In regard to (3), my role is to actively engage in dialogue with and disclose information to investors and shareholders through IR and SR activities, and accurately communicate our essential corporate value based on our long-term vision.

The current Medium-Term Management Plan focuses on the expansion of the global robotics market as a growth opportunity, but I believe that seeking to equip all robots with our products is not a wise policy. As robots become increasingly diverse, it is essential that we determine with a cool head which fields the HDS Group should enter and which we should not. It is also crucial that we improve our technical capabilities—one of the strengths of the HDS Group—and develop products in which customers can recognize their higher added value. In the event we forecast an increase in net sales in the future, our policy is to move forward strategically while carefully gauging profitability instead of pushing ahead while bracing ourselves to go in the red. In specialized fields, we will share risks with customers and also consider investing in fields with high growth potential while entertaining the possibility of collaborating with other companies.

Initiatives to Achieve Management Targets in Fiscal 2026

The net sales target for fiscal 2026—the final year of the current Medium-Term Management Plan—is ¥90.0 billion. We plan

Message from Chief Financial Officer

to achieve this by growing existing applications and building up new ones. Although future demand trends are uncertain, I believe that our compact, lightweight, and high-precision HarmonicDrive® strain wave gear and our mechatronics products that combine motors, sensors, controllers, and other elements with HarmonicDrive® show promise to grow in demand thanks to their high compatibility with high growth-potential devices.

In terms of production capacity, we already have equipment that can meet immediate demand, so we will increase the utilization rate. As for autonomous robot products that are expected to drive growth of the HDS Group going forward, since customers prefer smaller, lightweight, and flat types, we plan to improve our production lines in accordance with the increase in demand for these products.

(1) Improvement of Operating Profit to Net Sales Ratio and EBITDA Margin

The HDS Group is a manufacturing company that has created added value through high-precision fabrication—one of our greatest strengths. In terms of our profit structure, we will

maintain a comparatively high marginal profit ratio, so if net sales exceeds the break - even point, there will be a gearing effect on profitability. At this stage, we are striving to make a comeback as quickly as possible. We are also focusing efforts on the development of high value-added products. We will further enhance the knowledge we have accumulated as a pioneer in strain wave gearing over 50 years and offer products that are differentiated from the competition. We will increase added value by meeting the universal needs for precision planetary speed reducers and actuators that have large torque and are lightweight, compact, high-precision, and long-lasting with our high-quality technology and skills, and by offering more attractive products to customers.

To improve profitability by reducing variable expenses, we will consider the optimal way to divide in-house and outsourced processes, while keeping in mind Coexistence and Co-prosperity with suppliers. It is also important to increase awareness of costs further starting from the initial design stage of product development. The development section is working to cut materials and processing costs by standardizing materials and parts and streamlining designs. Inventory control

is also important, so we will strive to improve cash flow while maintaining an appropriate level of inventory. We have been procuring items mainly from Japan, but to cut costs further we will also consider procuring from outside Japan with top priority placed on quality.

With regard to fixed expenses, we will invest necessary management resources with a focus on expanding demand and strengthening our business foundation going forward, but first we will minimize investments and improve revenue by prioritizing making full use of current equipment and staff.

Through these efforts, we aim to return to a consolidated operating profit to net sales ratio of 15% or more in fiscal 2026.

(2) Decrease in Shareholders' Equity Cost and WACC

Improving capital productivity is an key issue for us. We will strive to improve capital efficiency with a focus on ROE and ROIC indicators. In addition, we will continue to be conscious of shareholders' equity cost and Weighted Average Cost of Capital (WACC) in the management of the HDS Group. Controlling capital costs is not an easy task, but I believe that mitigating the dependence on business performance contributes to managing capital costs. Therefore, we need to maintain and improve our capacity to provide a stable supply of products to customers and prevent speculative demand from arising due to prolonged lead time caused by short-term demand increases. And since the HDS Group is a parts manufacturer, we will also diversify applications with the aim of diversifying our customer and application portfolio and balancing growth with the mitigation of fluctuations in performance. For example, the mobility market, which includes surgical robots, cars, amusement, and evolve electric vertical take-off and landings (eVTOLs), is expected to have stable demand trends that have a low correlation with FA investment.

Furthermore, we will work to enhance communications with investors by actively engaging in IR and SR activities, which will result in reducing shareholders' equity costs.

Management Targets for the Medium-Term Management Plan for Fiscal Years 2024-2026 and Long-term Vision

Items		FY2023	FY2026 (Final Year of the Medium-term Management Plan) Management Targets		Aspirations (2030)
Growth	Net sales	¥55.7 billion	¥90.0 billion	Tie market expansion to the HDS Group's growth	¥100.0+ billion
Profitability	Operating profit to net sales ratio EBITDA margin	0.2% 18.8%	15~20% 25~30%	Provide high value-added products and reduce costs	20+% 30+%
Efficiency	ROE ROIC*	— —	10+% 10+%	> Cost of equity	10+% 10+%
Stability	Equity ratio	66.6%	70+%	Build a financial base that balances growth and stability	70+%
Shareholder returns	Dividend payout ratio	¥20/share	30+%	Dividend increase due to financial results expansion	30+%
Capital investment	Capital investment (3-year total)	¥19.8 billion	¥27.5 billion	Lay out capital investments to support the HDS Group's growth	—
Development technologies	Development expenditure (3-year total)	¥9.9 billion	¥12.3 billion	Create new technologies and skills	—

*ROIC = NOPAT (after-tax profit)/return on invested capital (shareholders' equity + interest bearing liabilities)

Message from Chief Financial Officer

(3) Stable Equity Ratio

In order to maintain financial stability taking into account the HDS Group's business characteristics, we have set our equity ratio at around 70%. (It was 66.6% at the end of fiscal 2023.) In the previous Medium-Term Management Plan, we used debt financing to raise capital, and we will continue to carry out flexible financial management with top priority placed on debt. As a development manufacturer, it is important for the HDS Group to maintain stable capital during short-term slumps in performance and run the company in an unwavering manner with a mid- to long-term perspective. And I believe that this will benefit shareholders and investors and meet their expectations. However, we will not strictly commit to a 70% equity ratio, but consider increasing debt if necessary in accordance with the

(4) Increase in R&D Expenditure

business environment.

The current Medium-Term Management Plan increases R&D investments to ¥12.3 billion (it was ¥9.9 billion in the previous plan) and focuses allocation of management resources on R&D—the lifeline of the HDS Group. In order to provide high value-added products backed with high quality, we need to conduct countless tests in the development stage, collect data, and leverage it in product development. We will also enhance product quality and cut costs by taking on the challenge of developing new production technologies and improving

(5) Cash Allocation and Capital Investment Policy

processes.

In terms of cash allocation, we expect cash flows from operating activities to come to approximately ¥43.0 billion—a roughly ¥10.0 billion increase from the ¥33.4 billion of the previous Medium-Term Management Plan. For cash outflow, we are planning ¥27.5 billion in capital investments (¥19.8 billion in the previous plan) and ¥7.0 billion in shareholder returns (¥6.5 billion in the previous plan). We will maintain a dividend payout ratio of 30% and expect to reduce interest bearing liabilities

to a little over ¥20.0 billion through scheduled payments and other measures. We will also strive to shorten the collection time of trade receivables, and work methodically to achieve results through negotiations with customers.

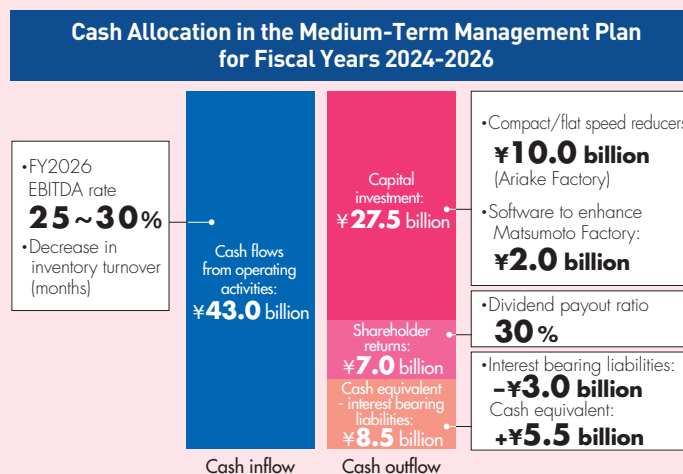
The breakdown for the ¥27.5 billion in capital investments is as follows: We expect to invest ¥10.0 billion over three years to build capacity to produce compact reduction gears for autonomous robots, which show promise to grow going forward. Other measures we are planning include updating machinery and equipment, building IT and other infrastructures, and investing in tools and other equipment.

We view reducing cross-held shares as a key management issue, so we are considering when the best time to implement this would be. We plan to allocate the capital gained from this first to growth investments such as capital investments, and will also consider returning capital to shareholders through share buybacks and other measures, taking into account factors such as our capital position and stock prices at the time as a whole.

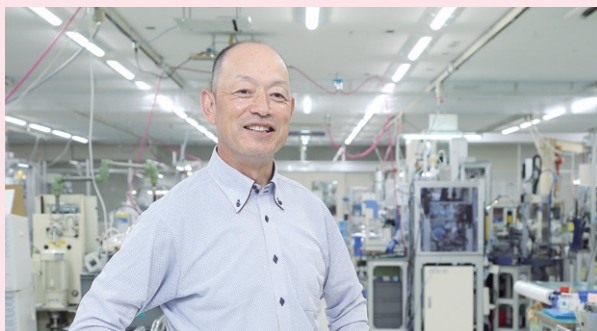
Raising Internal Awareness of Capital Costs and Stock Prices

In order to take "Action to Implement Management that is

Conscious of Cost of Capital," which is also a request by the Tokyo Stock Exchange, the executive employees in charge of the relevant department make decisions on capital investments by calculating the economic efficiency of the investment based on the DCF method and setting the hurdle rate at 10%. Going forward, we will convey our policy on return on invested capital (ROIC) to each business division to improve capital efficiency. With regard to total shareholder return (TSR), we will focus efforts on income gains based on a policy of a 30% dividend payout ratio, but we realize we are a growing company, so capital gain is a key factor. Therefore, we will strive to maintain a price earnings ratio (PER) at an appropriate level by prioritizing the improvement of earnings per share (EPS) and conveying our growth story more concretely to the capital market. We will also actively disclose information with high transparency and continue to communicate meticulously to contribute to improving corporate value.



I Message from Officer in Charge of Production



In addition to working to develop human resources and improve product quality, we will eliminate the personalization of operations by converting our engineers' insights into formal knowledge, and aim to maximize output by strengthening the production system.



Executive Officer (In Charge of Production, Production Planning)
General Manager of First Production Division

Tsuyoshi Awaduhara

My missions as the person in charge of production

The production section must satisfy customers' requirements for quality (Q), cost (C), delivery (D), and speed (S), while ensuring that there are no complaints. My missions in that process are to draw out the maximum production capacity of each of our factories, including the Hotaka Factory and Ariake Factory, during the next demand recovery period and to maximize our output as a Group. We recently received an urgent order from an overseas customer for several thousand speed reducers to be delivered within two weeks. I am proud to say that our ability to produce such a large order at the Ariake Factory and deliver it on time through close collaboration between sales and production planning was the result of our ongoing efforts to improve productivity.

Maximization of value of human capital

At the Hotaka Factory, we dispatch personnel from the manufacturing section to other departments such as production technology and ICT. As well as broadening these employees' perspectives on operations, this initiative also strengthens internal collaboration. In particular, in the ICT Promotion Office, which is in charge of DX operations, they learn about scheduling management for the various processes and how to use manufacturing data, for example, which leads to mindset reform in the manufacturing section. In addition, to make the skills of the manufacturing section's engineers and skilled workers visible, we have prepared skills assessment charts for each person. This enables us to identify the skills of each individual and the kind of work that they can be assigned, which allows us to pursue effective human resources development. The outcome of these efforts is that, in the past twelve months, a total of 385 personnel

have grown into multi-skilled workers who can be entrusted with multiple processes such as assembly and machining (ratio of multi-skilled workers: 50%). Looking ahead, even if there is a rapid recovery of demand and imbalances occur in the product mix, we have built a production system that is able to respond flexibly to such circumstances.

Achieving QCDS that meets customer expectations

At HDSI, as part of our efforts to improve quality, we hold Quality Meetings three times a week, attended by people in charge of quality assurance, production technology, design, service, and other sections. Because many of the Group's products accommodate customers' special specifications, we rely a great deal on the experience and intuition of our engineers and skilled workers. This dependence on individuals is also an issue. By quantifying such personalized operations and advancing DX, we are promoting activities to realize production that is more streamlined and efficient. We also hold Quality Waste Elimination Meetings once a month. With the aim of reducing quality variations, by identifying the causes of non-conforming products and implementing countermeasures, we strive to make testing processes more efficient and improve production efficiency.

Achieving the numerical targets of the Medium-Term Management Plan

Under the current Medium-Term Management Plan, we aim to achieve consolidated net sales of ¥90.0 billion in FY2026. If the existing facilities at Hotaka Factory and Ariake Factory operate at full capacity, HDSI alone will be able to achieve around ¥80.0 billion of that target. Currently, the HDS Group is anticipating new demand for humanoid robots. In terms of products for humanoid

robots, as well as our existing speed reducers, we can expect demand for compact speed reducers that can be fitted into both hands. Under the current Medium-Term Management Plan, we have capital investment plans of ¥27.5 billion over three years. Through steady growth investment, we aim not only to achieve the numerical targets of the Medium-Term Management Plan, but also to realize a target of ¥100.0 billion or more in consolidated net sales in FY2030. We will also strive to improve profitability through the introduction of new production methods, the digitalization and 3D management of individual processes, and the multi-skilling of engineers and skilled workers. By focusing our efforts on production systems and human resources development that will realize QCDS of the Group's proprietary, differentiated products, we will work to improve productivity for the achievement of the Medium-Term Management Plan.

Production capacity

The Ariake Factory has the capacity to produce 40,000 units for industrial machinery and 90,000 units for automotive installation per month. Going forward, we will place efforts into the optimization of production capacity, including considering replacing an automotive automation line with a line dedicated to products for humanoid robots. Harmonic Winbel Inc., which produces mechatronics products, currently has a production capacity of 5,000 units per month, but with the injection of new products, we plan to raise that capacity to approximately 8,000 units in 2026. The production capacity of Harmonic AD, Inc., which produces precision planetary speed reducers, is currently 6,000 units per month, but it is able to accommodate production of 10,000 units per month depending on demand.

I Message from Officer in Charge of Production Technology



While maintaining high quality, we will aim to further optimize manufacturing processes by moving beyond conventional methods to embrace the challenge of “new manufacturing.”



Executive Officer
General Manager of Production Technology Division

Hiroki Hanaoka

My missions as the person in charge of production technology

My missions are to reduce manufacturing costs and optimize manufacturing processes by maximizing the performance of the manufacturing capital (machinery and equipment, human resources, technologies) that we possess and improving the efficiency of manufacturing processes. In FY2023, we worked on efficiency improvements in production automation, concentrating on the Ariake Factory. We look forward to this automation equipment contributing to profitability in earnest in the next demand recovery period. We will also aim to achieve aspirations for 2030 by embracing the challenge of “new manufacturing” that is not bound by conventional thinking.

Initiatives for solving materiality

One of our material issues (materiality) is “achieving QCDS that meets customer expectations.” Quality (Q), cost (C), delivery (D), and speed (S) are the fundamentals of manufacturing and the most important initiatives for the HDS Group as a manufacturer. The Group’s products have unique structures, and there is significant dependence on the techniques, skills and intuition of the engineers in the assembly and testing processes of our products. Automation of production is under way at each of our factories, and going forward, by leveraging AI to promote the automation of quality evaluation and measurement processes, we will strive to improve and stabilize quality (Q) in particular. As this will also lead to improvements in delivery (D) and speed (S), we are rushing to introduce further automation and new production technologies. In addition, due to growing price competition with the emergence of competitors, we will undertake a fundamental review of our conventional approaches to manufacturing, introduce the optimal production equipment for the properties and sizes of our products,

and explore new processing methods, in our aim to make significant reductions to cost (C).

Initiatives for realization of the Medium-Term Management Plan

This year, to achieve the numerical targets of the current Medium-Term Management Plan that began in FY2024, we have set as our priority measures the “development of new production methods,” and the “productivity improvement through skill improvement and automation, and thorough pursuit of QC through DX” and are working on those priority measures. In addition, concurrently with the Medium-Term Management Plan, to strengthen our competitiveness and increase long-term profitability, we have launched a project for the improvement of operational efficiency and productivity, with the aim of company-wide cost reductions. In component processing, we are considering the introduction of innovative mass-production methods in addition to the introduction of new machinery. By reviewing material selections and sizes, tool selections, processing methods, and equipment selections, we are working to reduce the costs of materials and tools, significantly reduce setup times, and improve the efficiency of equipment space. For this endeavor, we have set an internal KPI of a 3% improvement in productivity per year. To achieve this target, we are strengthening our collaboration with the various departments, such as procurement of materials, development, design, manufacturing, and quality assurance. Further, based on requests from customers in each region, we have begun consideration of production aimed at the expansion of local production for local consumption. Our intention is to develop new customers by matching our design philosophy to local customers.

Progress in raising the level of automation

The Hotaka Factory handles high-mix low-volume production,

while the Ariake Factory deals in mass production of same type of product. If we compare the automation rate of the two factories, Level 4 automated equipment in which the individual processes are connected accounts for 37% at the Hotaka Factory, while at the Ariake Factory, it has reached 90%. Because the Hotaka Factory’s operations focus on high-mix low-volume production of custom products tailored to customers’ specifications, Level 1 equipment, which features manual attachment/detachment, making it highly flexible and allowing for easy changes in production items, accounts for approximately 40% of equipment processes (average for the East and West buildings). By introducing automated equipment and modifying existing equipment for automation at the Hotaka Factory as well, we are rolling out measures to raise the level from the current Level 1 to Level 2 equipment, which has an automated attachment/detachment feature, or even to Level 3 equipment, which has automated attachment/detachment and automated assessment features.

Risks and Issues

While we are working on the introduction of automated equipment and moving away from dependence on individual workers for specific processes, on the other hand, the presence of our highly experienced engineers and skilled workers is important, and I have concerns about their eventual retirement causing a decline in our skill level. To counter that concern, we are proceeding with efforts to increase the number of multi-skilled workers by making the skills and experiences that our engineers and skilled workers possess visible and identifying those skills and personnel that are lacking and those processes that are dependent on specific individuals. In addition, as well as strengthening our recruitment, we are placing efforts into education, including the passing on of techniques and skills.

I Message from Officer in Charge of Domestic Sales



My missions as the person in charge of domestic sales

We are engaged in a variety of sales reform initiatives with the aims of realizing the current Medium-Term Management Plan that began in FY2024, as well as the early achievement of the target of ¥100.0 billion or more in consolidated net sales by FY2030 set forth in our long-term vision. The acceleration of sales DX lies at the core of those initiatives. By building mechanisms for making effective use of customer data and extending information even to production and the supply chain, we are restructuring our sales methods that have conventionally been dependent on individual sales persons. My missions are to make our sales structure one that allows us to focus our efforts on solving customers' issues and to ensure that the outcomes of these initiatives lead to higher profits with certainty.

Sales DX strategy

With the establishment of the Head Office Sales Department about two years ago, we set up a dedicated team to strengthen our function for monitoring the trends of key customers, with a focus on manufacturers of industrial robots. We have thus established a structure whereby we gather and analyze information such as customers' demand forecasts for six months ahead and feed that information back to the production and supply chain sections. In future, even in the event of sudden demand fluctuations, if we are able to predict the situation six months ahead to a certain extent, we believe we will be able to prevent delivery delays. Also, looking ahead to the next ten years, we are advancing reforms to move away from personalized sales and, by analyzing and using data, promote more efficient and productive ways of working that are suited to an era of rapid change. In October 2024, the latest data-

We will accelerate our sales DX strategy, realize the early achievement of the Medium-Term Management Plan targets, and aim to establish a sales structure that allows us to focus our efforts on solving customers' issues.

Director
Executive Officer (In Charge of Marketing and Sales)
General Manager of Domestic Sales Division

Naomi Shirasawa



driven sales DX based on data began full-scale operations. This will make it possible to collect and analyze data such as demand forecasts, inventory status, successes, and failures. We will continue to build a sales structure that can be developed more strategically.

Initiatives for achievement of the Medium-Term Management Plan

Although we have many customers that make repeat purchases of our products, capturing new customers has been a struggle. For this reason, two years ago, we began selling highly versatile precision planetary speed reducers manufactured by our Korean subsidiary, SAMICK ADM CO., LTD., in Japan as well, and we are working on the acquisition of new customers. We are actively conducting PR activities that involve approaching customers that are not familiar with our precision planetary speed reducers and proposing new applications for these products. In addition, our in-house experts in various fields, including robots, semiconductors, mobility, and space, members of our sales bases in Japan and overseas, and motion control (MC) development team members hold information exchanges once a month, where they discuss future prospects and development themes. In the field of industrial robots, our main customers for strain wave gearing, the market for co-robots and humanoid robots is expanding, and there has also been a rapid increase in their adoption for space applications in recent times. We are stepping up our information gathering activities with the aim of identifying these kinds of market changes with certainty.

Product price revisions

In recent years, to respond to the entry of competing companies and requests from customers for price cooperation, we have

achieved continuous, significant cost reductions, while also making investments to improve delivery times. On the other hand, amid the recent sharp rises in costs, including labor, materials, energy, and transportation, we have had increasing opportunities to hold in-depth discussions about selling prices with our customers. At this stage, a growing number of customers have shown understanding of our sustainability perspectives and the state of our suppliers, as well as a willingness to engage in positive discussions regarding price increases. We are grateful to our customers for their support, which has allowed us to exist.

Future demand trends

Inquiries from industrial robot manufacturer customers have gradually started to recover from around July 2024. We are able to track the trends of our key customers, and can see that just over half of them are making progress in optimizing their inventory. The remaining customers are also starting to place orders for model numbers that they have run out of. Their inventory adjustments should be completed within the year, and we expect to see a resumption of orders from around the end of the year. On the other hand, at this stage, we have not yet seen a significant recovery in orders for semiconductor manufacturing equipment, although there has been a start in capital investment. We anticipate an expansion of demand in excess of the previous demand peak, against the backdrop of increased demand for servers and data centers accompanying the spread of autonomous driving in vehicles and AI. Under these circumstances, the end of 2024 will be a turning point for order placement, and we envisage reaching the next demand peak in 2025-2026.

I Message from Officer in Charge of Overseas Sales



In addition to capturing large orders, we will achieve the numerical targets of the Medium-Term Management Plan by steadily executing sales DX.

*Executive Officer
General Manager of Overseas Sales Division and General Manager of Sales
Administrative Division
(From October 1, 2024: Executive Officer and General Manager of Risk Management)*

Michiya Yashiro



My missions as the person in charge of overseas sales

As well as making effective use of local sales companies to suit market characteristics and achieving net sales commensurate with invested capital, our overseas sales persons are expected to enhance the presence of HSDI through sales activities that accurately grasp market trends and customer needs. My mission as the person in charge of overseas sales is to establish an environment and structure that will allow the individual sales companies and sales persons to demonstrate maximum performance. In the short term, this means indicating concrete business targets and striving for profitability, while at the same time, we will identify long-term market trends and gather customer information, conduct accurate analyses based on that information, and take action aimed at the future. Further, we aim to expand net sales by strengthening collaboration with the development and production sections and building a structure to respond speedily to customers' requests, and operating our sales organization to that end.

Initiatives for realization of the Medium-Term Management Plan

For projects related to humanoid robots that have been factored into the Medium-Term Management Plan's numerical targets, while identifying customer needs and making technical proposals from our end, we are building a product supply structure to match demand for robots and our production plans. We are also strengthening company-wide collaborations due to the large number of new customers and the need to respond swiftly to information that changes daily.

I also feel tremendous potential for meeting the numerical targets of the Medium-Term Management Plan. In terms of qualitative measures, similar to domestic sales, we are also planning to introduce sales DX in overseas sales as well during the period of the Medium-Term Management Plan. With the accumulation of various kinds of information from overseas in the sales DX, sales persons and managers will be able to grasp the situation in real time and deploy their next strategies on that basis. It will first be introduced at our Overseas Sales Division and Taiwan Representative Office, with plans to roll it out progressively to our overseas sales network, while considering the characteristics of individual regions. We will aim to achieve the numerical targets of the Medium-Term Management Plan by reinforcing our sales strategies with the use of sales DX and working steadily to acquire new projects.

Product prices

Over the past 15 years, with the cooperation of our suppliers and sub-vendors, we have worked on cost reductions while keeping our selling prices unchanged. However, as costs such as energy prices, costs of various materials, packaging and transport, and labor costs continue to skyrocket, we have notified the sales companies in each region of revisions to our prices. By providing careful explanations to help customers and sales agents understand these price revisions, we believe that they will be able to reflect the value of our products appropriately.

Future overseas demand trends

My impression is that the pace of recovery of overseas demand has been slower than expected. The stagnation of the Chinese economy, the slowdown in the EV market, and the increasing reluctance of manufacturing companies to make capital investments ahead of the U.S. presidential elections have all had an impact. Orders from overseas industrial robot manufacturers have also been patchy, with some manufacturers holding excess inventories. Semiconductor-related capital investment is showing signs of recovery, mainly in logic, but we are still waiting on a recovery in memory. For this reason, we are currently conducting various simulations in preparation for future demand recovery. As a major trend, worldwide labor shortages and growing needs for automation and labor saving, particularly in the manufacturing sector, as well as expansion of demand and the trends of miniaturization and multilayering being seen in the semiconductor sector represent structural, medium- to long-term business opportunities. As we head toward 2025, in the U.S. market, we can expect to see an increase in demand in the sector of medical equipment, particularly surgical assistance robots, and in space and satellite sectors. Other areas where expansion of demand is expected include the semiconductor and medical equipment sectors in Europe, high-end industrial robots in China, and semiconductor and telecommunications infrastructure in Asia. We anticipate a full-scale recovery in demand from the end of 2024 to the beginning of 2025, and forecast the arrival of the next demand peak in the second half of 2025 and into 2026.

I Message from the CEO of Harmonic Drive SE (Germany)



My career and mission

I have worked as part of the Harmonic Drive Group for more than 20 years in a variety of management roles. Since 2022 I am CEO of Harmonic Drive SE (HDSE). I am proud to have been able to position the company to achieve further growth for the future with the help of our business strategy. We view the Harmonic Drive Group as a global group. It is in the interest of the entire group to further expand collaboration between Harmonic Drive companies, particularly with regard to customers, products and the brand. It is my mission to ensure that this approach is reflected in future action plans.

Precision. Reliability. Flexibility. OverAll

HDSE's vision can be expressed in these words: "Precision. Reliability. Flexibility. OverAll." We are a company offering advanced mechanical and mechatronic drive technology, and we strive to use our extensive expertise and experience to the benefit of our customers and our company. HDSE aims for long-term value creation, continuously invests in the development of its employees and takes the principles of sustainability into account when making decisions. In 2022 we formulated the HDSE vision with a 10-year horizon and are currently undertaking concrete measures to achieve it.

Exceptional engineering skills

A significant asset of HDSE is our exceptional engineering

Our employees are the heart of our company and the foundation of our success.

Chief Executive Officer
Harmonic Drive SE

Thomas Berger

expertise, our in-depth knowledge of manufacturing and our extraordinary technical capabilities that result in high quality products. This enables us to offer our customers tailored and outstanding solutions across various markets. We strictly follow all applicable regulatory and quality requirements, ensuring that our products meet the specific and rigorous demands of various industries. As part of our strategy, we are pursuing this particularly in the Aviation & Space segment.

Five initiatives of the HDSE Strategy 2027

Based on the HDSE vision, we have developed and are carrying out the HDSE Strategy 2027, a five-year strategy that sets out economic goals for 2027. This strategy aims to increase our turnover significantly every year and to ensure profitability. It has been integrated in the Harmonic Drive Systems Medium-Term Management Plan for fiscal year 2024-2026. In order to reach these goals, we have developed and follow five strategic initiatives: "Excellent team and attractive employer", "fostering innovation", "securing existing business", "expanding into new markets", and "taking care of a sustainable organization and processes".

We have made the "Excellent team and attractive employer" initiative a particularly important part of our strategy, as we are fully aware of the great value and importance of qualified and satisfied employees. After all, our employees are the heart of our company and the foundation of our success. Based on this conviction, we have developed a modern human resources strategy and offer contemporary and attractive working conditions.

Strategy to drive demand and differentiate ourselves

Looking ahead to 2027, we expect demand to grow especially in the areas of Aviation & Space, Defense and Robotics. We believe

these areas will continue to drive growth after 2027. However, we must also recognize the challenge posed by the competition. HDSE will continue to differentiate ourselves from our competitors by offering tailored solutions (product, engineering, quality, after sales service) and by following our "strategy" "high variance, small quantities".

Social responsibility and sustainability

We are undertaking efforts to comply with the EU Corporate Sustainability Reporting Directive (CSRD). For example, in July 2024 we established a Code of Conduct in our company. We have also formed an energy team that is pursuing numerous projects to save energy and resources throughout the company. HDSE is also undertaking efforts to promote biodiversity. One example is that we installed five beehives on our factory premises to contribute to the realization of a society that is in harmony with nature through beekeeping. And we offer the honey we gather as a gift to colleagues and clients. HDSE has been supporting local charities for many years thanks to the voluntary and active support of our employees. Many of our female employees participate every year in a women's race that supports a local organization dedicated to the protection of women. We believe that these activities meet the requirements of a modern company. We have a positive outlook for the future and take social responsibility and sustainability into account in our business activities.



Honey made
by HDSE

I Message from the President & CEO of Harmonic Drive LLC (USA)



My career and HDLLC's vision

I have worked at Harmonic Drive in the US for 34 years. Before that, I was the owner of a manufacturing company that produced a range of products, including medical equipment and servo actuators. It was then I was introduced to HarmonicDrive® strain wave gearing. Through working with the people at Harmonic Drive Systems' US subsidiary HD Systems, Inc. (now Harmonic Drive LLC) as a customer, I came to deeply appreciate the quality of their product and the dedication of their employees. It was therefore an easy decision for me to join the company. I have proudly served as President of HD Systems, Inc. (now holding company of Harmonic Drive LLC) for 14 years and as President of Harmonic Drive LLC for the past 16 years. The company has grown significantly over that period and is now poised to rapidly accelerate in growth. HDLLC's vision is to become the North American market leading manufacturer of high precision actuators and motion control products. I am honored to be leading the company during this exciting period of growth and innovation.

If our customers are successful, we will also enjoy success

It is people, not machines, that enable growth of our business. I am proud to say that we have an amazing, knowledgeable and dedicated workforce at all levels of the company; executive leadership, middle management, and team members. We invest in our staff through training and coaching and empower them

It is people, not machines, that enable growth of our business. I am proud to say that we have an amazing, knowledgeable and dedicated workforce.

President & CEO
Harmonic Drive LLC

Douglas Olson

to take actions to best serve our customers. I always tell our employees, "Our job is to make our customers successful. If we do that well, we will also enjoy growth and success." People sometimes ask why I have stayed at Harmonic Drive for so many years. There are two major reasons. One is the amazing people that I have the privilege of working with every day, and the other is the unique applications where our products are used that benefit society.

The medical, semiconductor, and aerospace market segments are expected to continue to show strong growth

In North America, our major market segments are medical equipment (including surgical robots), semiconductor capital equipment, and aerospace. Quality and reliability are paramount and it is inspirational to all of our employees to know that we manufacture products used in applications that greatly benefit and improve people's lives. Several of our employees have even had medical procedures done with the surgical robots equipped with our products. The medical market segment is forecast to see accelerated growth and a significant increase in demand due to needs of aging populations as well as the desire for faster post-surgery recovery times. The semiconductor capital market is propelled by the high demand for semiconductors used everywhere from mobile phones, IoT devices, electric cars and, most notably, today it is driven by the computing needs for artificial intelligence. The aerospace segment has grown as a result of the constellations of low earth orbit satellites and the ongoing programs to return to the moon and travel to Mars. We have thousands of our HarmonicDrive® strain wave gears in orbit around Earth as well as on spacecraft to explore every planet in our solar system and beyond. Looking to the future, it is clear that

humanoid robots equipped with AI will be commonplace in the workplace sometime this decade. There are many players around the world engaging in development, and we are preparing to contribute to this new, high growth market.

The Harmonic Drive Group's strengths that set us apart from the competition

Recognizing the success the Harmonic Drive Group has experienced over the years, competitors have recently been copying our designs and hoping to capture some existing business and new opportunities. However, copying a work of art does not make you an artist. Sixty years of experience cannot be copied. It is our accumulated knowledge, experience, and dedication that sets us apart from our competition. The Harmonic Drive Group has a unique environment that maximizes the group's strengths by sharing knowledge regarding design, manufacturing knowhow, markets, and supply chain.

Factory automation and elevating machinists' skill level

We have, and continue to, focus on employing automation in our factory to minimize the direct labor needed to produce products and maximize machine utilization while maintaining superior quality. This also allows us to elevate the skill level of our employees, where, for example, a machinist learns new skills and earns higher pay as they become able to set up and maintain automation cells. We have never downsized our staff when implementing new automation; we were simply able to produce more with our existing skilled team members. We will continue working to enhance our strengths further and improve the value of the entire group.

Message from the President of Harmonic Drive Systems (Shanghai) Co., Ltd.



We strive to accommodate local Chinese manufacturers and seize new revenue opportunities that have strong growth potential.

Takeshi Nakahira

President
Harmonic Drive Systems (Shanghai) Co., Ltd.

Rise of local Chinese manufacturers

Since our company was established in 2011, we have grown due to expanding sales to foreign industrial robot manufacturers with local production bases. Recently, local industrial robot manufacturers in China increased their share of the market thanks to strong cost competitiveness. According to one report, the market share of local manufacturers exceeded 50% in the second half of 2024. The performance and quality of robots manufactured by local Chinese manufacturers have improved, and we have received more technical inquiries and the level of the requests made to us has increased.

Enhancing efforts to cut costs and shorten delivery time

As we continue to expand sales to local industrial robot manufacturers, we have some of our products assembled by an external partner to cut costs and shorten delivery time. We plan to enhance efforts to expand sales even further while maintaining our competitive edge and ensuring profit.

Mid- to long-term demand potential continues to expand

In the Chinese market, the spotlight is on strong growth-potential humanoid robots as well as semiconductor capital and medical equipment. Semiconductor capital equipment has activated development and production in local Chinese manufacturers. More companies are using strain wave gearing especially in front-end processing. In addition, the over-60 population of China is expected to reach 30% of the country's total population in 2035, so demand for speed reducers used in medical equipment and humanoid robots is expected to increase greatly. We plan to focus our efforts on this in collaboration with group companies in North America and Europe that have extensive knowledge. Recently, we have been enhancing our lineup of actuator products that connect to servo drivers manufactured by major local electronics manufacturers. This has contributed to expanding latent revenue opportunities in a wide range of markets.

Message from the President of SAMICK ADM CO., LTD. (South Korea)



We will continue undertaking innovative cost-cutting measures and transform ourselves into a stable profit-making company.

Hyun-Woo Jin

President
SAMICK ADM CO., LTD.

Features and strengths of SAMICK ADM

SAMICK ADM was established in Daegu, South Korea in 2013 to manufacture Precision planetary speed reducers in East Asian countries such as China and South Korea. In June 2022 we became a 51-percent-owned subsidiary of Harmonic AD (HAD) with the aim of expanding sales of Precision planetary speed reducers for the HDS Group. We are provided support on design and production technology by Harmonic Drive Systems (HDSI), carry out quality and technological exchange with our parent company HAD, and have strengthened collaboration with the worldwide sales network. We provide a stable supply of high-quality Precision planetary speed reducers and our ability to accommodate short delivery times and urgent inquiries has been recognized, resulting in sales expansion.

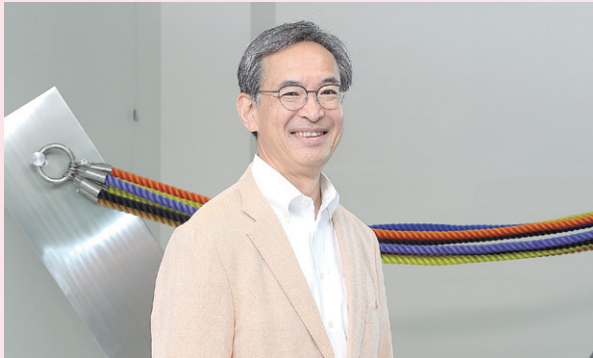
Measures to achieve 2030 goals

We are building an organizational structure that will generate stable profit while maintaining high product quality. Currently we are taking on bold challenges to reduce costs, such as carrying out pricing strategies tailored to different regions and applications and utilizing a wide range of materials and processing methods. We are also working with suppliers to accommodate forged and extruded components that were difficult to employ before. We aim to achieve a monthly production and sales volume of about 1,700 units by FY2030 (our target for this fiscal year is 1,200 units). To achieve these targets, we will enhance quality, production capacity, and price competitiveness, and strengthen our ability to accommodate short delivery times and urgent inquiries.

Sustainability initiatives

Our sustainability initiatives include optimizing production, placing solar panels on the roof of our factory, and installing high-efficiency equipment. In addition, we encourage our employees to conduct voluntary activities through the improvement suggestion system. We are striving to be a company that makes our customers and our staff happy, while deepening collaboration with other members of the HDS Group.

I Message from Officer in Charge of Corporate Planning



We will strive to build “one team” across the globe and improve corporate value through active dialogue with all stakeholders.



Executive Officer
General Manager of Corporate Planning Division and Business Development Division

Tetsuya Shiokawa

Background and mission as General Manager of Corporate Planning Division

After working in sales at a major trading company, I went to business school in the US, and after graduating I worked in management at a foreign-affiliated company and was involved in M&A. Then I became involved in establishing Graduate School of Leadership and Innovation, Shizenkan University in Japan, where I also taught and served as vice president. My mission as General Manager of Corporate Planning Division is to plan and facilitate business with an emphasis on achieving both “evolution and depth” in today’s unpredictable VUCA age and to realize sustainable growth. I will explore new business opportunities and strengthen competitiveness further by evolving the company and deepening existing businesses.

Vision for the Company and business model

Our company does not have non-Japanese Directors, but considering the growth of our overseas businesses, we need a diverse Board of Directors. Diversity enables global business decisions to be properly carried out; drives globalization of wages, recruitment, personnel exchange, types of employment, joint purchasing, and so on; and promises to improve efficiency of the entire organization and increase competitiveness. Our company uses area-specific sales organizations now, but going forward I want to strengthen communications with each location and build a business model that emphasizes efficiency. Furthermore, it is clear that organizations and people play a key

role in improving sustainability.

Our U.S. subsidiary HDLLC is the first company in the HDS Group to conduct employee satisfaction (ES) surveys, and has improved its organizational capabilities by strengthening communication between management and employees. We will expand this initiative to other regions and are also considering customer satisfaction surveys with the aim of strengthening activities as “one team” even further.

Becoming listed on the Prime Market

We have received requests from investors within and outside Japan to comment on moving to the Prime Market, but this requires us to strengthen sustainability initiatives and formulate a persuasive mid- to long-term growth story. We also need to enhance human resource recruitment and development, build an organizational foundation that is befitting of a company that is listed on the Prime Market through measures such as increasing the number of women in management, and activate our organization and create a virtuous cycle.

Building an IT information system that includes a DX Strategy

Currently we are focusing efforts on driving digital transformation (DX). We still have many analogue processes that are dependent on specific individuals. For example, creation of diagrams and management of information in design and quality assurance are still paper based. By digitalizing these processes with

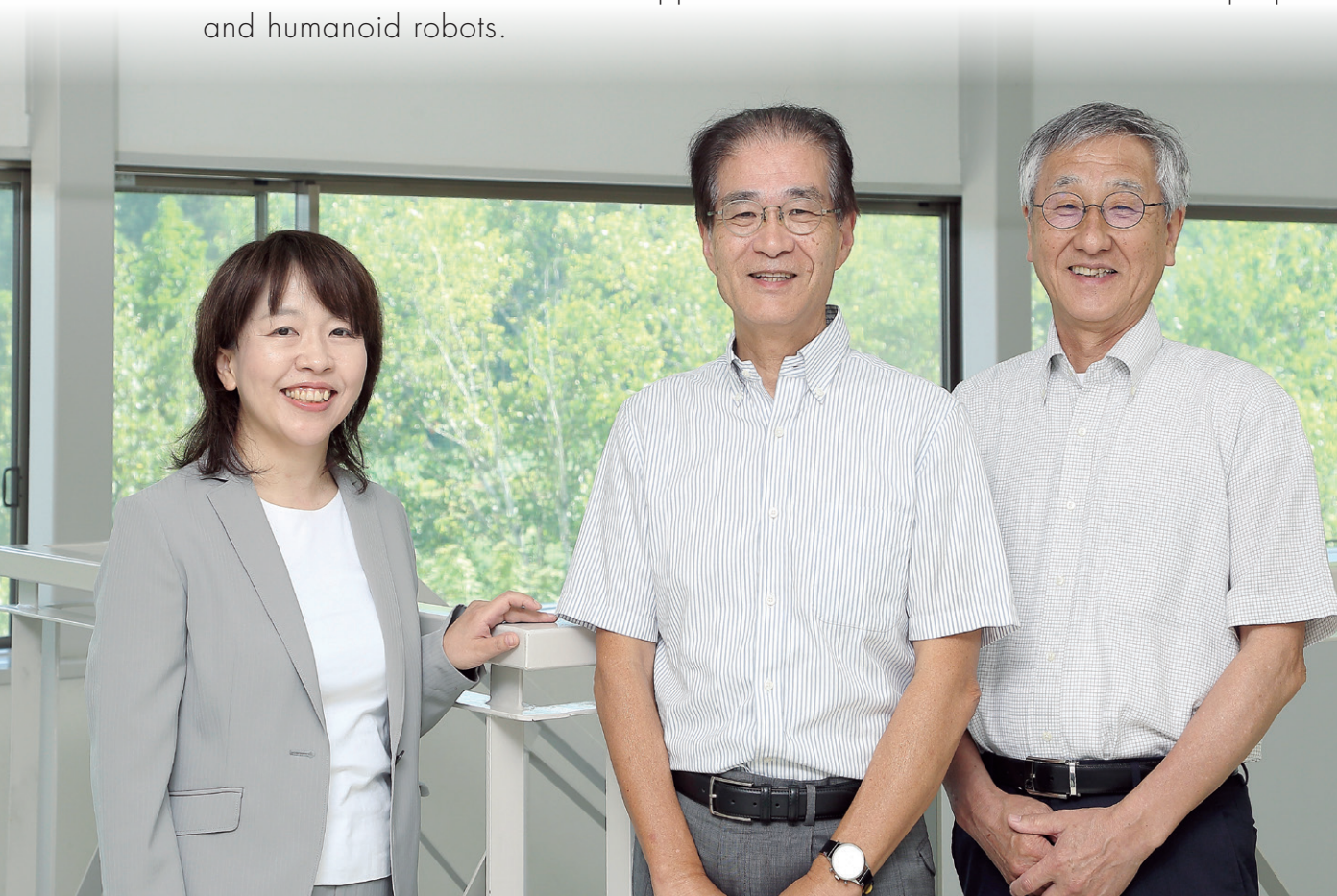
manufacturing execution system (MES), we expect to improve QCDS in production activities. In addition, production sites and the ICT Promotion Office—the organization responsible for driving DX—maintain constant collaboration to accelerate DX. One recent example is successfully cutting costs by managing data of jigs and tools and visualizing the state of utilization. We will drive digitalization to pursue efficiency while continuing to place importance on analogue processes as elements that differentiate us from the competition and give us a competitive advantage, with the aim of enhancing sustainability by improving efficiency further and driving digitalization.

Challenges

The HDS Group’s overseas bases are building a strong foundation in their respective regions, but integration between companies in the group has not progressed enough. For example, the brand logo of the U.S. (HDLLC) and Japan are both blue and the logos look similar, but the logo of our German subsidiary (HDSE) is magenta and the logo itself is different. Having every base in the HDS Group think of themselves as “one team” and building a global network through dialogue will facilitate information sharing and joint development and enhance corporate value. To accomplish this we will promote communication further through measures such as increasing the frequency of global conferences.

Roundtable Discussion with officers in Charge of Technology Development

We will strengthen our competitive advantage by enhancing cross-organizational collaboration to seize business opportunities such as new cost innovation projects and humanoid robots.



Shizuka Yata

*Executive Officer
Chief of Harmonic Drive Laboratory*

Yoshihiro Tanioka

*Director
Executive Officer
General Manager of Development and
Engineering Division*

Yoshihide Kiyosawa

*Executive Fellow Officer (Chief Technical Officer)
(in Charge of Technology and Quality)
General Manager of Quality Assurance Division*

MC: Tell us about your initiatives for realization of the Medium-Term Management Plan.

Tanioka: We are placing particular importance on new product development. We did not launch many new products in 2023, but in 2024 we released a new series—the ULW series of ultralightweight HarmonicDrive® strain wave gear—and are taking measures to strengthen reliability. By overcoming challenges in productivity in the mass production stage, we expect to enhance product performance and improve production yield. We will also launch new drivers in our mechatronics product series. With functions that replace the current drivers, these new drivers incorporate the results of years of research and enable optimized control through integration with HarmonicDrive®. We are striving to control vibrations by combining these drivers with our new actuators and improving positioning accuracy. One of our strategies to achieve the targets for the mechatronics business in the Medium-Term Management Plan is to make up for the shortcomings of HarmonicDrive® with an easier to use system.

Kiyosawa: Our core product, HarmonicDrive® strain wave gear, was developed in 1964 based on the technology and drawings of USM (U.S.). We made our own changes to various parts, such as the gear teeth, but there are still parts that depend on the original technology. Going forward we will replace these with our own designs and technology to evolving it into a new product. For example, our CSF series was launched in 1992 as a revamped version of the previous CSS series. Then in 1999 we released the CSG series, a high-strength version of the CSF series. Since then we have incorporated added value such as making it more compact, lightweight, and longer-lasting, and also expanded the product lineup, but we still manufacture and sell the CSF series. Going forward we will improve productivity and profitability and stabilize quality by standardizing and combining the CSF and CSG series. We will strive to achieve the targets in the Medium-Term Management Plan by expanding such efforts to other products.

Roundtable Discussion with officers in Charge of Technology Development

Yata: To achieve the objectives of the cost innovation project being carried out under President & CEO Akira Maruyama, we need to consider things such as combining the CSF and CSG series. I want to continue placing importance on the mindset to meet customer expectations by offering new solutions, but I do not think it is wise to meet excessive requests for customization to the point of sacrificing our own profitability. One view is that standardizing the CSG series will allow us to create a foundation to offer proposals and roll out products to customers. We have started deliberations on how much we can improve profitability by revising manufacturing methods and materials in the development of new products. The Harmonic Drive Laboratory (hereinafter “HD Laboratory”) develops underlying technology in collaboration with the development section. HD Laboratory strives to add new value to top-selling products and products that are superior to the competition. It also works to enhance improvement efforts related to development proposals, materials, and design. To achieve the numerical targets of the Medium-Term Management Plan, we need to create new value through our own efforts and carry out activities to improve productivity further.

MC: Tell us more about the cost innovation project.

Tanioka: The project was drawn up by President & CEO Akira Maruyama. It aims to revise all costs—from fixed to variable—and expand profitability. I have served as the chief operations officer since July 2024. I have created five companywide working groups based on QCDS. For Quality (Q), we will eliminate waste in quality and reduce spoilage cost. For Cost (C), we are taking approaches such as figuring out what kind of quality and lifespan a product will have if we make it with half the cost, which includes exploring new construction methods. For Delivery (D), we are driving digital transformation (DX) by utilizing data and visualizing the production process with a manufacturing execution system (MES) to meet customers’ desired delivery times. For Speed (S), the sales and management sections plan to reduce indirect costs by streamlining business operations and taking measures to expand net sales such as revising product pricing. Our policy is to

boost effectiveness by defining quantitative KPIs and conducting regular monitoring.

MC: Is organizational collaboration across sections progressing?

Yata: HD Laboratory handles operations such as development of underlying technologies, but it is also part of a cost innovation project working group. The working group is expected to produce analysis results such as demonstrating what effect using low-cost materials has on the performance of speed reducers. In the past I have sometimes felt that sections were siloed, but recently there have been active efforts to break down the walls between sections. There have been more meetings between sections with different perspectives and between engineers of diverse specialties.

Tanioka: When components are procured from a new materials manufacturer, the procurement section determines whether it is effective after consulting with the design, quality assurance, and other sections. The development section and production section are also carrying out cross-section activities such as implementing DX. And the production section has been consulting with the development section more often. In addition, ever since CTO Kiyosawa took on the concurrent role of Quality Officer three years ago, cross-organizational communication has become more active. Previously, the development, quality assurance, and production sections had conducted activities independently, but since the quality officer said he would take the lead, communication has improved, allowing them to share a range of experiences and issues. I expect the cost innovation project to accelerate the cultivation of a companywide sense of solidarity and strengthen cross-section collaboration.

Kiyosawa: I think we can achieve our target net sales if we can find solutions to customers’ unreasonable demands, offer products that go above and beyond customers’ requests, and improve quality. As the Executive Officer in Charge of Technology and Quality, I am currently focusing efforts on

improving product quality. Defective products and customer complaints are a clear waste, and their reduction will lead directly to boosting profit. In addition, the quality assurance department exchanges information with other organizations such as the development and design department, HD Laboratory, and production technology department on matters such as cost innovation project initiatives and product development for humanoid robots. Cross-organizational activities can be seen everywhere. Relevant departments communicate to solve problems and share issues with each other; for example, when replacing processing machinery, departments other than the production technology department participate.



Kiyosawa

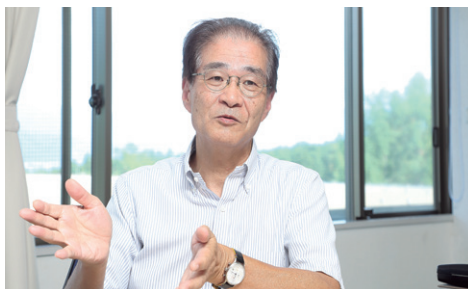
MC: Tell us your opinion and the advantages of humanoid robots.

Yata: By internally sharing, to the extent possible, where the products we develop and manufacture are used in robots and in what type of robots, our policy is to boost the motivation of every individual involved and tackle this companywide. Automated equipment generally used in the manufacturing industry is a heavy investment, and the cost is even greater if the parts that connect machine to machine can be used for a wide range of purposes. However, I think that if humanoid robots become commonplace, it may lead to reducing the cost of implementing automated equipment. Some are considering implementing humanoid robots for precision tasks, and since

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there are needs for high-speed, high-precision, and large torque components, more companies will probably use our compact speed reducers. We will continue to take on challenges to ensure that in five years when our rivals catch up to us we will be even farther ahead by overcoming highly difficult technical issues, which includes sometimes applying state-of-the-art technologies.

Kiyosawa: I think that rather than simply replacing workers with robots, companies seek speed and accurate positioning in factories beyond that of what workers can do. This requires advanced controls equipped with a torque sensor, and we are accelerating R&D in this area. We have already successfully developed a compact speed reducer product for humanoid robots, and it is undergoing design review for mass production. I am sure other companies are also conducting development, but considering the technical advantage we have gained through making many mistakes, I think we are five to ten years ahead of the competition.



Tanioka

Tanioka: We are examining how small of a speed reducer with a strain wave gearing mechanism we can turn into a product. Currently we are taking on the challenge of developing a product with a 5-mm outer diameter and also working on improving test equipment for items with a 3-5-mm outer diameter. Right now we are working to solve the backlash problem and to improve strength and stability. Going forward,

we plan to also enhance development of actuators which are part of speed reducers. We are also strengthening information security measures to prevent our proprietary technologies from leaking.

MC: What are your thoughts on barriers to entry for the competition?

Tanioka: To create barriers to entry, we must take on the challenge of developing a large number of products before the competition, and accelerating the product development cycle of making mistakes, solving them, and translating that into new products. We have the human resources, equipment, and experience, so we are confident that we have, and will continue to have, high barriers to entry for the competition.

Yata: If we lose the mindset to take on challenges in product development, it's over. We are actively incorporating the latest technology in our underlying technologies. In aerospace applications, products they were talking about 10 years ago have emerged and a new market has formed. I'll say it again: To stay ahead of the competition and maintain our advantage, we need to continue taking on challenges to ensure profitability while continuing to meet customers' expectations. If we stop taking on challenges, then that is the end for us.

Kiyosawa: You cannot just perform the tasks you were told to do. New ideas are born from thinking for yourself, going for it, and experiencing failure. Tackling new problems and themes before rivals and finding answers through experiencing utter failure leads to success. Technologies developed without making a mistake will end up being copied by the competition. Mistakes are a source of barriers to entry, so I want everyone to take on challenge after challenge and make lots of mistakes. (lol)

MC: Lastly, I would like you to talk about risks and challenges.

Tanioka: I want to cultivate successors and turn things more over to young people by gradually delegating authority. I have

also talked about this with engineers on the manufacturing floor, but I want leaders and manager class mid-level employees who will take the reins 10 or 20 years from now to work hard to drive the company.

Yata: We also need to build a foundation to take on new challenges. Recently we have had the bitter experience of a deal falling through because exchanging contracts in English took so long that the other party who wanted to conduct joint research lost enthusiasm. We need to enhance the organizational structure and speed to respond to globalization. I have reaffirmed my belief that we need an R&D facility fully equipped with development testing equipment, which will also serve to promote our development capabilities externally.



Yata

Kiyosawa: We run the risk of the competition catching up to us if we stay satisfied with the status quo and do not take on challenges. Offering high quality products tailored to customer specifications is the essence of our business model. We will contribute to creating new markets and improve corporate and social value by offering products that exceed customer expectations and carrying out a product-oriented strategy.

I Management Based on Ceaseless R&D and Constant Emphasis on Quality

As a basic principle, the HDS Group prioritizes “ceaseless research and development activities” and “a constant emphasis on quality,” as a foundation to its management aiming to create attractive products that satisfy our customers and provide services from the perspective of our customers.

R&D Organization

The R&D organization of the Company comprises the New Mechanism Principle Laboratory, which conducts R&D of new principles and mechanisms, free from the boundaries of existing products and technologies; the Harmonic Drive Laboratory, which conducts preemptive research and product development based on future forecasts with a focus on deepening and expanding core technologies; the Development and Engineering Division, which develops and designs products based on customer requests; and the Production Technology Division, which conducts R&D of the methods and equipment required for product manufacturing.

This system enables us not only to meet diverse customer requests but also to conduct preemptive R&D for the future, pursue fundamental technologies that form the basis of all R&D, and actively engage in studying new principles and mechanisms capable of delivering innovative value to customers in the future. We are building a system capable of adapting to the rapid changes of today.

Furthermore, to enable agile customer response and to accelerate technological development, our business operations are conducted through the close collaborations among the three sections of sales, development and production. Also, we pursue technological development aiming to establish new technologies through the collaboration among the industry, government, and academia.

Quality Promotion Organization

In the HDS Group, the head of quality assurance of Harmonic Drive Systems Inc. supervises the quality of our branded products across group companies, shares policies, and ensures the promotion of initiatives. To enhance the quality level of all matters related to our branded products such as development, production, and service, the head of quality assurance grasps the quality status of each company through the quality assurance divisions of each group company, and receives monthly quality reports, including critical quality issues, in the regular quality meetings held every month at each company. Through such efforts, the HDS Group supervises quality information.

Furthermore, through the quality assurance divisions in each group company, we guide and supervise domestic and international factories, suppliers, and partner companies entrusted with manufacturing.

All group companies involved in manufacturing are certified with ISO9001, the international standard for quality management systems, and we are committed to maintaining and improving a quality assurance system for the stable delivery of high-quality products.

Five strengths of the HDS Group that serve in meeting customer expectations

(1) Accumulated technologies and skills related to strain wave gearing

We believe that the development technologies, production technologies, processing and assembly technologies and skills, and production systems that we have built up for more than 50 years since our foundation in pursuit of expanding the potential of speed reducers, are the HDS Group's greatest strength.

(2) A product lineup providing compact size, light weight, and high accuracy

The mechatronics products and speed reducers are being chosen by customers who seek advanced levels of motion control and more compact, lightweight equipment. We provide differentiated added value that would be difficult to achieve with any other mechanisms across a wide range of applications.

(3) Core technology enabling the provision of total motion control

The HDS Group has built up total motion control technologies and skills through R&D and production of mechatronics products that integrate speed reducers, motors, sensors, drivers, controllers, and other system elements. The resulting tangible and intangible technologies and skills related to core technology are the source of the competitive advantage of the HDS Group.

(4) Business operations integrating sales, manufacturing, and development

The strength of the HDS Group lies in the system in place to quickly reflect customer needs and ideas of engineers in production and to provide products that meet customer expectations, which is made possible through the close collaborations among the sales, manufacturing, engineering, and development sections.

(5) Global business expansion

The HDS Group has operation sites in Japan, Europe, the U.S., South Korea, China, and Taiwan. Business strategies that conform to characteristics of each region are promoted and each site mutually cooperates to provide optimal products and services to customers around the world.

R&D Organization

