

# Financial Capital

## Message from the Chief Financial Officer

### Financial Strategy for Resolving Social Issues While Realizing Business Growth

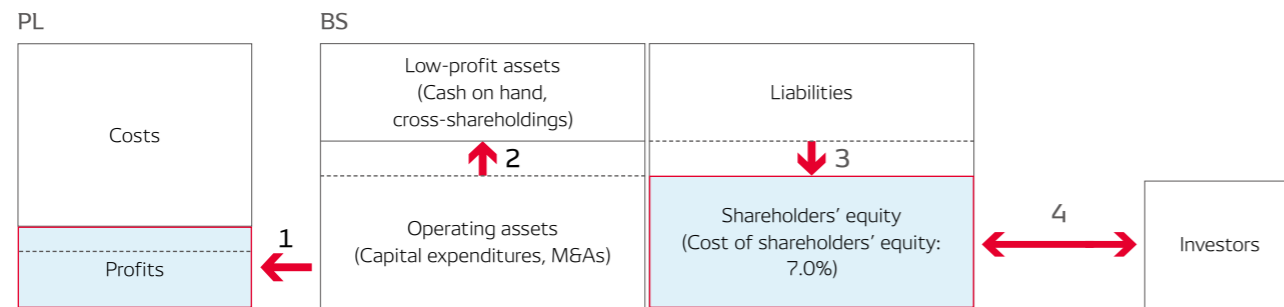
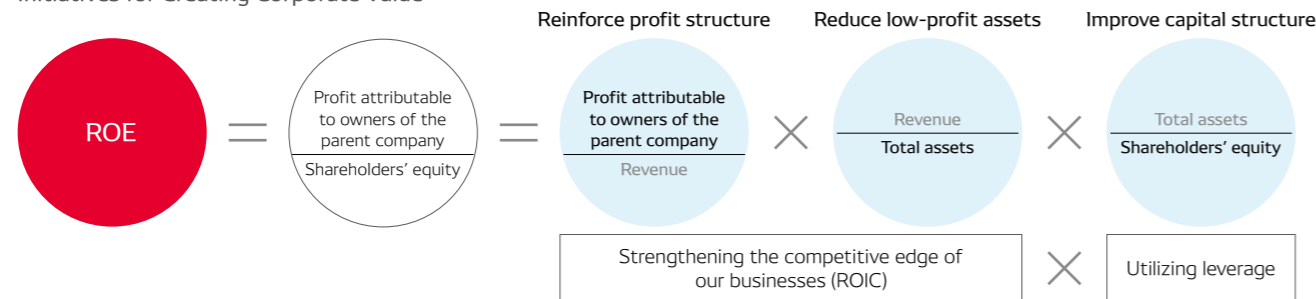
**Yasushi Matsui**  
Chief Financial Officer  
Executive Vice President  
Representative Member of the Board

#### Financial Strategy for Realizing the Mid-term Policy for 2025

DENSO's sustainability management focuses on "resolving social issues by maximizing the value of green and peace of mind to be inspiring" and "expanding genuine equity spread over the medium to long term." By implementing this management approach, we aim to enhance our corporate value in a sustainable manner. Furthermore, guided by management with an awareness of capital cost, we established return on equity (ROE) as our most important KPI from a financial perspective.

Under the Mid-term Policy for 2025, we have set a target for ROE of 10% or higher with the aim of maximizing value creation by having ROE exceed the Company's current cost of shareholders' equity of around 7% and the minimum level expected by society, as indicated in documents like *Ito Report 2.0*, of 8%. As CFO, I will seek to realize this target through the agile promotion of a financial strategy supported by four pillars: (1) reinforce profit structure, (2) reduce low-profit assets, (3) improve capital structure, and (4) engage in dialogue with markets.

#### Initiatives for Creating Corporate Value



- 1 **Reinforce profit structure:** Improve ROIC
- 2 **Reduce low-profit assets:** Reduce cash on hand and cross-shareholdings
- 3 **Improve capital structure:** Leverage loans, diversify fund procurement, renew policy for shareholder returns
- 4 **Engage in dialogue with markets**

#### DENSO's Important KPIs (Results for Fiscal 2023 → Targets for Fiscal 2026)

##### Reinforce profit structure

- ROE: 7.3% (Cost of shareholders' equity: 7.0%) → **10% or higher**
- Operating margin: 6.7% → **10%**

##### Reduce low-profit assets

- Cash on hand compared with monthly turnover: 1.0 months → **Maintain current level**

- Cross-shareholdings: 21 stocks → **Further reduction**

##### Improve capital structure

- Shareholders' equity ratio: 59.1% → **50% or higher**
- DOE: 3.2% → **Stable long-term improvement**
- Treasury stock acquisition: ¥100.0 billion → **Flexibly implement and strengthen**

#### 1. Reinforce profit structure

#### 2. Reduce low-profit assets

#### 3. Improve capital structure

#### 4. Engage in dialogue with markets

### Overcoming the Rapidly Changing External Operating Environment to Realize Further Corporate Value Creation

In fiscal 2023, despite a market recovery from the impacts of the COVID-19 pandemic, our performance was significantly impacted by negative developments in the external operating environment, including a decline in vehicle production due to prolonged semiconductor shortages, soaring prices of materials, primarily electronic components, logistics costs, and energy costs. In such an environment, we pursued efforts to expand sales in focus fields such as electrification and advanced safety systems and promote rationalization by improving productivity and other areas. We also worked diligently to strengthen our response capabilities to overcome the challenges presented by the worsening conditions in the external operating environment. As a result of these endeavors, revenue increased 16.1% year on year, to ¥6,401.3 billion, and operating profit was up 24.9%, to ¥426.1 billion, both reaching record highs.

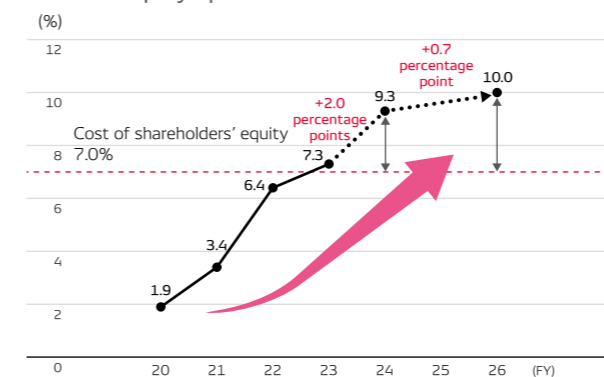
In fiscal 2024, while semiconductor shortages are likely to gradually be resolved, we expect to continue to see a challenging operating environment, including in terms of inflation. Even under these adverse conditions, we will strive to achieve record-high revenue and profits for the second consecutive year by developing and expanding sales of attractive products, rigorously controlling fixed costs, and further enhancing our ability to respond to change.

ROE in fiscal 2023 came to 7.3%, a 0.9 percentage point improvement over the previous fiscal year, thereby exceeding the Company's cost of shareholders' equity. Through efforts to further strengthen profitability, we expect to achieve ROE of 9.3% in fiscal 2024, steadily making progress toward our fiscal 2026 target (as of the release of our first quarter financial results for fiscal 2024).

Under the Mid-term Policy for 2025, we declared our commitment to creating social value by realizing the goal of "ultimate zero," meaning that we achieve carbon neutrality and eliminate fatalities from traffic accidents.

From here, I will explain specific initiatives we are implementing to both resolve social issues and realize business growth, in accordance with the four pillars of our financial strategy.

#### ROE and Equity Spread



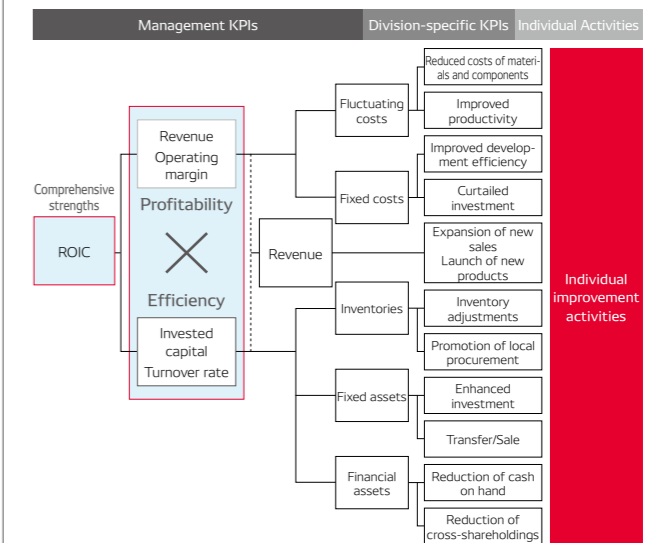
#### 1. Reinforce Profit Structure: Business Management Focused on Realizing the DENSO Philosophy

##### (1) Evolving ROIC-Minded Management Geared toward Corporate Value Enhancement

DENSO's ROIC-minded management is not a method for short-term improvement in financial indicators but rather aims to enhance corporate value over the medium to long term.

Through ongoing awareness-raising activities that cover various angles, including the in-house rollout of an "ROIC tree," regular educational activities, and the sharing of improvement

### ROIC Tree Showing the Relationship between Management KPIs and Individual Activities



examples in global in-house publications, we are working to instill a deep understanding of the significance of our financial indicators in all of our employees. By doing so, we are implementing ROIC-minded activities on a continuous basis. Various examples of improvements have been seen in our frontline operations since the introduction of ROIC-minded management, and I feel that the ongoing efforts of our employees have gradually boosted our ROIC on a Companywide basis.

In addition, since fiscal 2023 we have added ROIC as a metric for determining the performance-linked compensation for members of the Board. By disclosing our targets for ROIC in fiscal 2024, we are further reinforcing the awareness of and commitment to ROIC by senior management.

We have entrenched a strong awareness of ROIC throughout many layers of the Company in the approximately two years since introducing ROIC-minded management, and we will seek to enhance this awareness even more moving forward.

#### (2) Reshuffling Business Portfolio to Realize the DENSO Philosophy and Achieve Business Growth

##### A. Striving for Sustainable Growth by Responding to Constantly Changing Social Issues

We believe that creating social value in the domains of green and peace of mind and inspiring our stakeholders will enable us to sustainably sharpen our competitive edge. As the value needed by society continues to change, we will perpetually reshuffle our business portfolio from the perspectives of realizing the DENSO philosophy, accelerating growth, and boosting profitability in terms of ROIC. This approach will allow us to create social value in a sustainable manner and achieve business growth.

Guided by this approach, we will reduce our number of products with a high burden on the environment, primarily internal combustion engines, and invest the resources gained by doing so in growth fields, such as electrification and advanced safety, and new businesses that offer new value. In these ways, we will achieve sustainable growth and high profitability.

##### B. Realizing Carbon Neutrality by Popularizing EVs

To date, DENSO has contributed to the electrification of vehicles, leading the way ahead of other companies with such initiatives as the development of electrification technologies and the establishment of a global production structure. With heightened environmental awareness across the globe and the

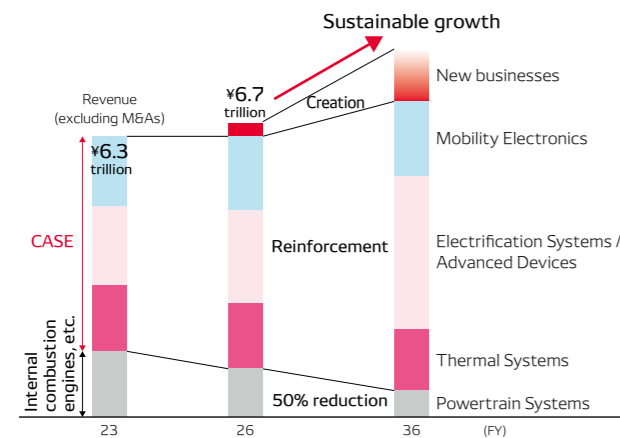
1. Reinforce profit structure

2. Reduce low-profit assets

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Business Portfolio Reshuffling over the Medium to Long Term



accelerated shift toward EVs, the needs of our customers are diversifying. In light of these trends, there are now greater expectations of DENSO due to our extensive product lineup and exceptional proposal-making capabilities.

Inverters are one of our mainstay products in the field of electrification. We have already commenced the mass production of inverters in North America and China, and we expect to do the same in Europe in fiscal 2024. By doing so, we will steadily expand sales and bolster production capacity with a view to achieving an annual production of 12 million inverters by fiscal 2026.

In terms of development, we have launched into the inverter market using silicon carbide (SiC) power semiconductors (SiC inverters), which greatly reduce the electricity consumption of BEVs. These SiC inverters have been adopted in the new LEXUS RZ, the vehicle manufacturer's first BEV model. These SiC inverters reduce power loss by nearly half compared with conventional inverters that use silicon (Si) semiconductors, thereby helping improve the driving distance of BEVs.

While SiC inverters garner even greater attention due to the rapid transition to BEVs, DENSO is striving to enhance the competitiveness of SiC inverters, in terms of both output and cost, through proprietary technologies such as trench-type metal-oxide-semiconductor (MOS) structures, which help achieve a high-voltage operation of BEVs, and dual-side engine-cooling and other long-cultivated vehicle-cooling technologies.

Furthermore, DENSO possesses both battery management systems that utilize a safe, highly efficient power source control to enhance driving distance and heat management systems that make use of waste heat and battery temperature for vehicle heating, thereby increasing driving distance by approximately 20%. In addition to these products, we have technologies that can realize eco-friendly, highly efficient electrification through system-wide control that makes use of our ECUs. These technologies represent our greatest strength as a comprehensive systems supplier.

Going forward, we will realize carbon neutrality by bringing together our broad range of technologies to further contribute to the electrification of vehicles.

C. Developing Advanced Safety Technologies That Can Eliminate Fatalities from Traffic Accidents

In the field of advanced safety, we have been expanding product sales on a global basis and steadily increasing the value we provide through safety, including by commencing the full-scale mass production of Global Safety Package 3

(GSP3), a driver support system that greatly expands the settings in which accident prevention systems are used.

GSP3 combines sensing and image recognition technologies—two strengths of the Company—that can detect a large volume of data and process it at high speeds, thereby supporting accident prevention in a diverse range of settings. With this improved functionality, GSP3 has been praised by our customers as a high-value-added product that greatly enhances safety and has helped us significantly improve profitability.

Additionally, we are steadily undertaking the development of next-generation technologies. By extending the range of protection of our safety systems to encompass the entire vehicle, we are on track to enhance the range of applicability by 2025 to offer protection in 56% of all possible scenarios in which we anticipate fatalities from accidents occurring.

To provide coverage for the remaining 44%, in addition to our own initiatives, collaboration is needed between relevant government agencies, car manufacturers, and companies in adjacent industries so that we can promote a three-pronged approach encompassing people, cars, and traffic environments. To that end, we are pursuing the development of even more advanced safety technologies. These include infrastructure coordination systems that recognize hazards in the blind spots of vehicles and systems utilizing our superior HMI\* technologies that go so far as to monitor the driver's condition, level of skill, and driving tendencies.

Through the advancement of safety products that combine cutting-edge technologies, we will help realize freedom in mobility with zero traffic accident fatalities.

\* Human-machine interface

D. Promoting Strategies That Position Semiconductors as Key Devices for Accelerating Growth

As cars become further electrified and advanced, there is a greater need for semiconductors as key devices for functional enhancement. For this reason, advancements in semiconductor technology and the stable procurement and supply of semiconductors themselves are essential.

With over 50 years of experience in the in-vehicle semiconductor domain, we possess thorough knowledge of both vehicles and semiconductors. Leveraging this distinct advantage, we aim to contribute to the overall semiconductor industry through efforts to comprehensively strengthen everything from the development of advanced semiconductor technologies to the establishment of production structures.

From the perspective of development, we are moving forward with the development of advanced technologies such as gallium nitride semiconductors at the R&D subsidiary MIRISE Technologies Corporation. In addition, through our investment in Rapidus Corporation, a company established to promote the domestic production of advanced semiconductors, we are pursuing miniaturization technology to accelerate the development of semiconductors with a thickness of 2nm or less.

Regarding procurement, we are seeking to realize stable semiconductor procurement through such means as transitioning to alternative parts for components with high procurement-related risks and concluding long-term fixed order contracts with suppliers. Although the tight supply-demand situation for semiconductors as a whole is gradually improving, supply concerns still remain for in-vehicle semiconductors, for which demand is booming. We will

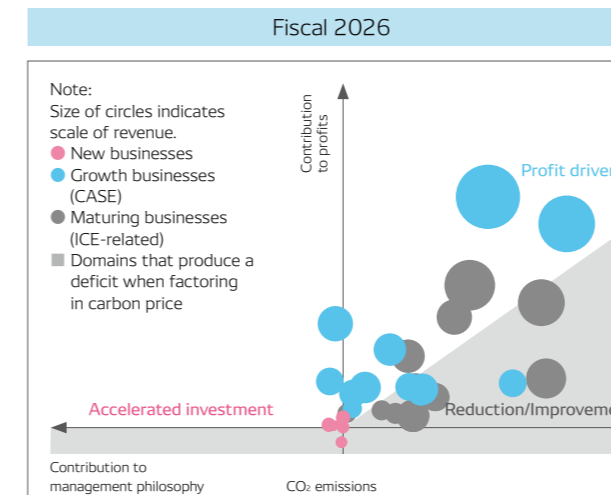
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Example of the Reshuffling of Our Business Portfolio



In addition to improving profitability by expanding businesses focused on CASE and reducing businesses focused on internal combustion engines (ICEs), we will work to create new markets that contribute to carbon neutrality.

therefore take steps to further reinforce our procurement foundation so that we can provide society with as many quality vehicles as possible.

In terms of production and supply, in addition to bolstering our production structure both at our plants and at those of our subsidiaries, we have commenced the mass production of power semiconductors on 300mm wafers in collaboration with United Semiconductor Japan Co., Ltd. We have also invested in Japan Advanced Semiconductor Manufacturing, Inc., a subsidiary of Taiwan Semiconductor Manufacturing Company Limited. In these ways, we are working to secure a more stable semiconductor supply structure through collaboration with various business partners.

Moreover, as part of our efforts to bolster the manufacturing of SiC power semiconductors, we are developing proprietary wafer manufacturing technologies that make use of a so-called gas method. These technologies can reduce CO<sub>2</sub> emissions during the manufacturing process by 90% while curtailing costs by 30%.

In the vast field of semiconductors, we will continue to enhance our in-house manufacturing capabilities and pursue strategic collaboration with partners possessing competitive advantages.

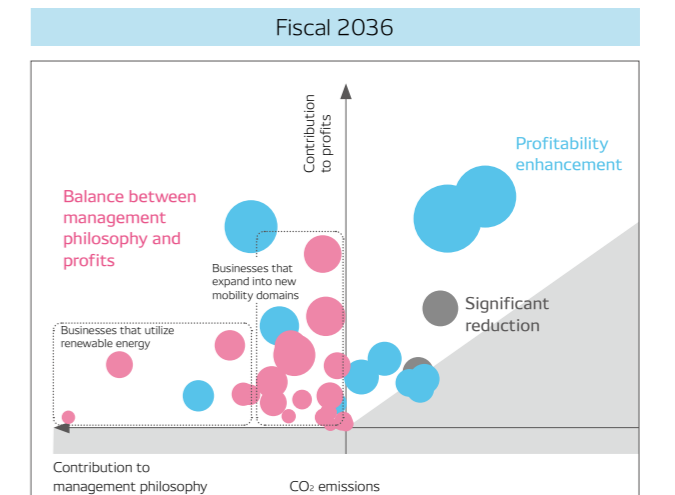
E. Promoting Business De-Emphasis and Discontinuation to Enhance Our Overall Competitiveness in the Industry

To achieve an optimized business portfolio, it is important to downsize and/or withdraw from mature businesses in tandem with achieving growth in focus fields.

Although downsizing or withdrawing from a business can be a painful process in the near term, we are promoting Companywide efforts toward de-emphasis and discontinuation in order to pursue the next stage of growth and enhance our overall competitiveness in the industry.

Specifically, we have divided the Company's businesses into 85 product groups and once a year are determining the future direction of each group based on its contribution to the following criteria: realizing the DENSO Philosophy, accelerating growth, and boosting profitability in terms of ROIC.

Through these examinations, we transferred our fuel pump module and type III alternator businesses in fiscal 2023 and, in



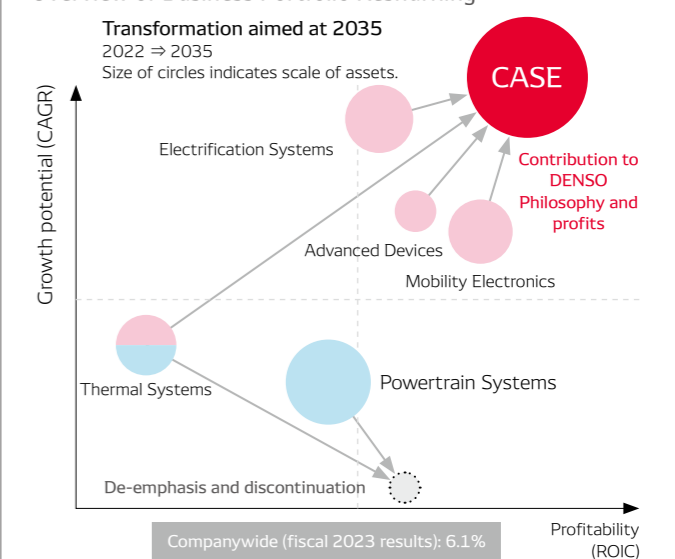
By expanding businesses in new mobility domains and businesses that utilize renewable energy, we will strive to achieve a portfolio that strikes a perfect balance between our management philosophy and profits.

fiscal 2024, we plan on undertaking several other business transfers. For example, we concluded a memorandum of understanding with Niterra Co., Ltd. regarding the transfer of our spark plug and exhaust gas sensor business. These are core products for internal combustion engines that have underpinned our growth thus far and currently contribute to profits. However, in light of our ambition to enter a new stage of growth and fully realize the DENSO Philosophy, we have decided to pass the business on to the company that can handle it best.

For businesses that we transfer to third parties, we leverage the elemental technologies and know-how we have cultivated in such businesses in future growth fields, having them serve as a foundation for new corporate value creation.

Alongside the reshuffling of our business portfolio, we are promoting structural reforms aimed at optimizing our production and supply structure in each region. In North America, we are shifting production to a subsidiary in Mexico, where production costs are low, and consolidating other plants in the region. In Asia, we have liquidated a South Korea-based subsidiary. In these ways, we are promoting the consolidation of our subsidiaries across the globe.

Overview of Business Portfolio Reshuffling



1. Reinforce profit structure

2. Reduce low-profit assets

3. Improve capital structure

4. Engage in dialogue with markets

The resources generated from de-emphasizing and discontinuing businesses and from optimizing our production and supply structure will be shifted to bold investments in growth domains.

F. Creating New Value That Connects the Movements of Society

We have held examinations regarding the social trends we expect to see in 2035, using the megatrends anticipated for 2050 as our starting point and backcasting from there. Based on these examinations, we have declared our intention to create a cycle of joy that provides social value by invigorating and forming connections between the flow of five essential elements to keep society in motion: people, goods, energy, resources, and data. Guided by this aim, we will draw on the strengths we cultivated in the field of mobility to pursue the resolution of new social issues and the creation of new value through new businesses that extend our value provision across society as a whole. (Special Feature: Connecting the Flow of Five Elements of Society [P.86-88](#))

(3) Flexibly Responding to Changes and Risks in the External Operating Environment

In concert with realizing growth through the reshuffling of our business portfolio, we are moving forward with reforms to our profit structure to enable a flexible response to risks.

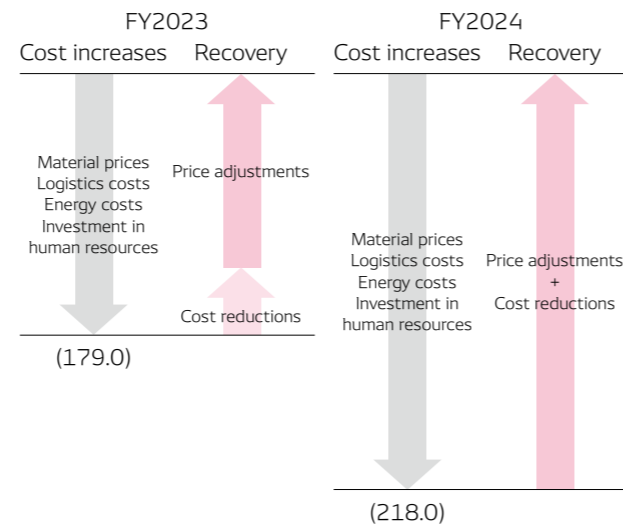
In fiscal 2023, we focused our efforts on reinforcing our ability to respond to change. To address the issue of rising costs, starting with soaring prices for materials, primarily electronic components, logistics costs, and energy costs, brought about by changes in the external environment, we promoted cost-cutting initiatives and sought to transfer costs to customers. As a result, we were able to offset nearly all of the negative impacts of cost increases on profits, which amounted to ¥179.0 billion.

In fiscal 2024, we expect cost increases to have a roughly ¥218.0 billion impact on profits compared with periods of less volatility, against the backdrop of our accelerated investment in human resources, which includes factors such as inflation and increasing salaries following tight recruiting conditions. However, we will seek to offset this entire amount by stepping up efforts to reduce costs and transfer costs to customers.

Furthermore, through efforts to offset this negative impact, we will establish rules for appropriately reflecting costs throughout the entire supply chain. By doing so, we will help enhance

Worsening Conditions in the External Environment and Our Response Measures

(Billions of yen)

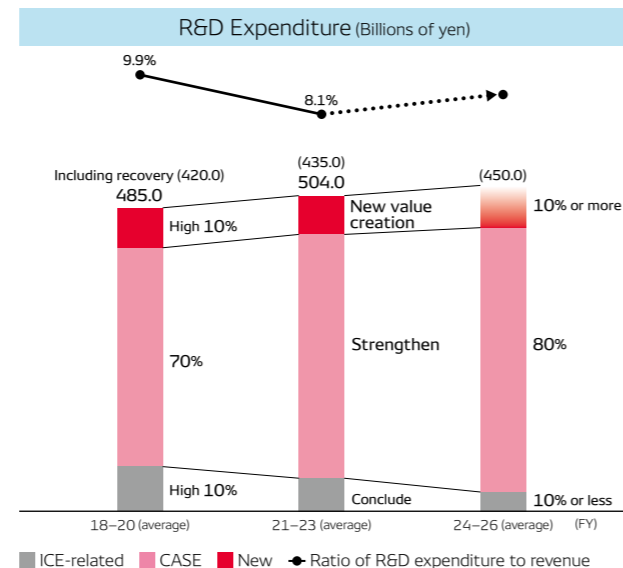
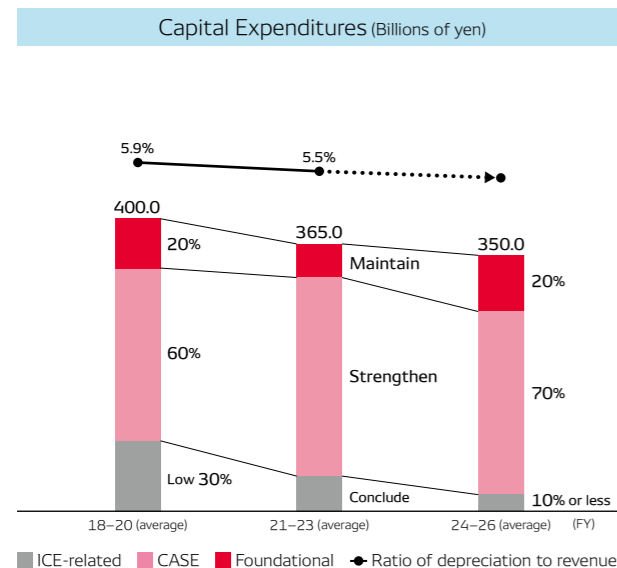


the competitiveness of the automotive industry and realize a circular economy.

First, we will pay the increased prices of our suppliers, taking into consideration the impact of rising material prices, increased energy costs, and higher employee salaries on their operations. We will then reflect these increased costs in our transactions with car manufacturers, thoroughly explaining to them the reasons for price increases using data and other evidence. In this way, we will promote a cycle of appropriate price adjustments, including for end-users.

In addition to these efforts to strengthen our ability to respond to change, which focus primarily on realizing a recovery in profits from the current adverse conditions in the operating environment, we are undertaking reforms to our business model to address changes that will occur over the medium to long term. One major example of such efforts is receiving payments from customers during the stage of software development, as this development itself is becoming far more massive in scale. This does not simply mean that we move the billing period forward, but rather that we ask our customers to clearly recognize the intangible value created through software development, in

Resource Allocation



1. Reinforce profit structure

2. Reduce low-profit assets

3. Improve capital structure

4. Engage in dialogue with markets

addition to the more conventional tangible value we create through our hardware. I therefore believe that this effort will help spur a significant change in the awareness of our customers.

Through these means, not only will we provide value to our customers through our advanced technological capabilities, we will also focus efforts on promoting the appeal of the value we offer so that it is appropriately recognized by our customers, which in turn will enhance our competitiveness.

(4) Strategically Investing in Future Growth

A. Capital Expenditures and R&D Expenditure—Striking a Balance between Curtailing Costs and Executing Growth Investments

For a company such as DENSO, which boasts strengths in *Monozukuri* and R&D, capital expenditures and R&D expenditure are necessary upfront investments for the future. In recent years, we have significantly changed the ways we invest in both areas.

It is important to consider two perspectives when executing upfront investments amid the rapid changes occurring in the external operating environment: accelerating growth by establishing core strengths and curtailing fixed costs in consideration of risks related to such changes.

Looking back on the past five years, we have executed capital expenditures, including toward internal combustion engines, at a level that far exceeded depreciation. Recently, however, with the further entrenchment of ROIC-minded management and the progression of business portfolio reshuffling, we have been curtailing capital expenditures at around ¥350.0 billion, which is nearly the same as depreciation, by winding down our investment in internal combustion engines while continuing to actively invest in focus fields. From the perspective of controlling fixed costs over the medium to long term, we will engage in highly efficient investment decision-making while maintaining our current level of capital expenditures.

We have continued to bolster R&D expenditure, without reduction, even amid the dramatic changes in the external operating environment. In particular, we have invested heavily in software development, starting with the domain of next-generation advanced driver assistance systems (ADAS), and these investments account for more than half of our total R&D expenditure. We have also been striving to improve profitability by promoting more efficient operations through AI and other types of digital transformation and by transforming our business model in the ways I described earlier.

Going forward, we will continue to strengthen R&D expenditure as the bedrock of our competitiveness. However, we will target a level of ¥450.0 billion (including returns) for this expenditure as we further accelerate our efforts toward enhancing

Results of Recent Collaboration with Business Partners

IN: Investment and Acquisition	OUT: Transfer and Sale
Hirose Plant, Toyota Motor Corporation	Fuel pump modules
BluE Nexus Corporation	Type III alternators
J-QuAD DYNAMICS Inc.	Spark plugs
Aurora Innovation Inc.	Exhaust gas sensor
Renesas Electronics Corporation	TDmobile Corporation
Infineon Technologies AG	
Japan Advanced Semiconductor Manufacturing, Inc.	
Rapidus Corporation	
Toshiba Information Systems (Japan) Corporation	
eSOL Co., Ltd.	
Tohoku Pioneer EG Corporation	
Certhon Build B.V.	

Note: Majority of other partner start-ups includes memorandum of understanding to start examination of business transfer.

efficiency and transforming our business model. By doing so, we will achieve an even greater competitive edge.

B. Accelerating Growth by Strengthening Strategic Partnerships

Although we have been reinforcing the in-house manufacturing of core technologies, collaboration with external partners is indispensable, in terms of both specialization and speed, as changes in the external environment become more intense and customer needs become increasingly more complex.

We have established electrification, ADAS, software, semiconductors, and new businesses as focus areas and have assembled cross-organizational task forces for each area. These task forces are stepping up efforts to examine strategies in their specific area. While we have been promoting collaboration with external partners in each of these focus areas for quite some time, we are working to swiftly narrow down candidates for collaboration that have the necessary means to help us realize our strategies. Through this approach, we will strengthen collaboration with our partners without missing out on important opportunities.

2. Reduce Low-Profit Assets: Improving Asset Efficiency by Reducing Assets While Determining Ideal Asset Levels

DENSO seeks to utilize its asset portfolio with the greatest levels of efficiency by determining the necessary levels of certain types of assets in order to downsize asset amounts.

(1) Optimizing Cash on Hand

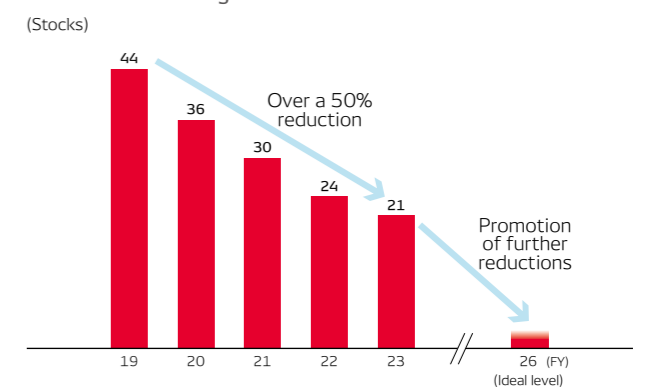
We have been working to optimize cash on hand by minimizing the funds needed for business operation (standard business funds) and reducing uneven asset distribution by region through the use of the Global Cash Management System (GCMS). By enhancing the precision of our day-to-day cash management in fiscal 2023, we were essentially able to achieve the fiscal 2026 target for cash on hand of 1.0 times\* the amount of monthly revenue for the total of standard business funds and rainy-day funds for emergency circumstances. Going forward, we will continue to promote the efficient utilization of cash as we seek to grow.

\* In the financial statements, funds under the GCMS are treated as deposits by the lending company and loans by the borrowing company, which means that they are recorded as both deposits and loans. However, the figure for actual cash on hand excludes the impact of the GCMS.

(2) Curtailing Cross-Shareholdings

We have decided to widen the scope of cross-shareholdings for which we are examining possible curtailment to include not only shares held by the Company but also those of subsidiaries. By doing so, we are promoting reductions that exceed the requirements of Japan's Corporate Governance Code. In fiscal 2023, we sold approximately ¥44.2 billion worth of holdings by the

Cross-Shareholdings



1. Reinforce profit structure 2. Reduce low-profit assets **3. Improve capital structure** 4. Engage in dialogue with markets

Company through total or partial sale of holdings of seven companies. As a result, the total number of cross-shareholdings came to 21, a reduction of over half from the 44 cross-shareholdings owned as of the end of fiscal 2019. Going forward, we will continue to curtail such holdings so that the cash generated through the sales of holdings can be used to invest in creating corporate value as dictated by our growth strategies.

**(3) Optimizing Inventories**

We have broken down inventories into the three categories of temporary inventories, strategic inventories, and standard inventories, and track each accordingly. Temporary inventories refer to those held in response to logistics disruptions and other external factors. Strategic inventories are those held to hedge against natural disasters and various other risks. Standard inventories are those held for use in production activities under normal circumstances.

In fiscal 2023, inventories amounted to around ¥1.1 trillion as the result of our efforts to secure temporary and strategic inventories in order to ensure a stable supply to customers. In fiscal 2024, we will engage in activities to strengthen our corporate structure on a global basis, working toward inventory levels of around ¥0.9 trillion after revising inventory criteria in a timely manner and reducing temporary inventories to zero in light of the current recovery from semiconductor shortages and easing of logistics disruptions.

Moving forward, we will swiftly identify relevant inventory issues and make concerted efforts toward optimizing inventory levels, thereby further cementing our operating foundations.

**3. Improve Capital Structure:  
Pursuing Targeted Capital Structure by Bolstering Funding Platform and Issuing Proactive Shareholder Returns**

We seek to reduce capital costs while maintaining a balance between safety and efficiency, and to utilize borrowings, diversify funding sources, and issue proactive shareholder returns in order to create corporate value. In these ways, we will improve our capital structure.

For fiscal 2026, we target a shareholders' equity ratio of 50% or more. We believe that this is a level that will allow us to maintain a credit score that enables fundraising even during an economic crisis.

**(1) Diversifying Funding Sources and Utilizing Borrowings**

DENSO prepares for future large-scale investments by diversifying funding sources through such means as utilizing bank loans, domestic corporate bonds, and foreign-denominated funds via overseas corporate bonds. Through such efforts, we are able to raise a large amount of funds from a broad range of investors, which in turn will help us maintain a stable funding platform enabling investment in growth fields and new businesses and participation in M&A activities and business alliances.

Additionally, through the ongoing utilization of sustainability bonds, we will further accelerate efforts to resolve environmental and social issues, centered on the sustainability management initiatives that we have been implementing since our founding.

**TSR (Cumulative / Annual Rate)**

Investment period	1 year		3 years		5 years		10 years	
	Cumulative / Annual rate	Cumulative	Annual rate	Cumulative	Annual rate	Cumulative	Annual rate	
DENSO	-3.0%	127.2%	31.5%	41.1%	7.1%	120.8%	8.2%	
TOPIX	5.8%	53.4%	15.3%	31.8%	5.7%	142.1%	9.2%	
TOPIX (Transportation equipment)	-4.6%	61.8%	17.4%	22.9%	4.2%	95.3%	6.9%	

Source: DENSO CORPORATION

Going forward, we will seek to further improve capital efficiency by actively utilizing borrowings and bonds while maintaining a high degree of financial health.

**(2) Shareholder Return Policy**

DENSO aims to realize and further enhance total shareholder return (TSR)\* that exceeds the cost of shareholders' equity steadily over the long term by increasing both dividends (income gain) and share price (capital gain).

For dividends, we have adopted a basic policy of consistently growing dividend on equity (DOE: Dividends ÷ Shareholders' equity) using the level of 3.0% as our baseline. Guided by this policy, we increased DOE by 0.1 percentage point year on year in fiscal 2023, to 3.2%. As for treasury stock acquisition, we acquired ¥100.0 billion in treasury stock in fiscal 2023, up ¥2.5 billion year on year. The scale of this acquisition was determined by comparing our targeted capital structure and theoretical share price with actual figures based on our long-term business plan. Looking ahead, we will continue to promote the flexible acquisition of treasury stock while expanding the scale of this acquisition.

Through our efforts to enhance stable, long-term shareholder returns, we will realize TSR that exceeds the cost of shareholders' equity. At the same time, we will curtail increases in capital and enhance our corporate value. (Financial Highlights

□ P.119-120)

\* TSR: Total return on investment that combines capital gains and dividends

**Status of Long-term Credit Rating (As of July 20, 2023)**

Rating company	Credit rating
Rating and Investment Information, Inc. (R&I)	AAA
S&P Global Ratings	A+
Moody's Investors Service, Inc.	A2

**(3) Cash Allocation**

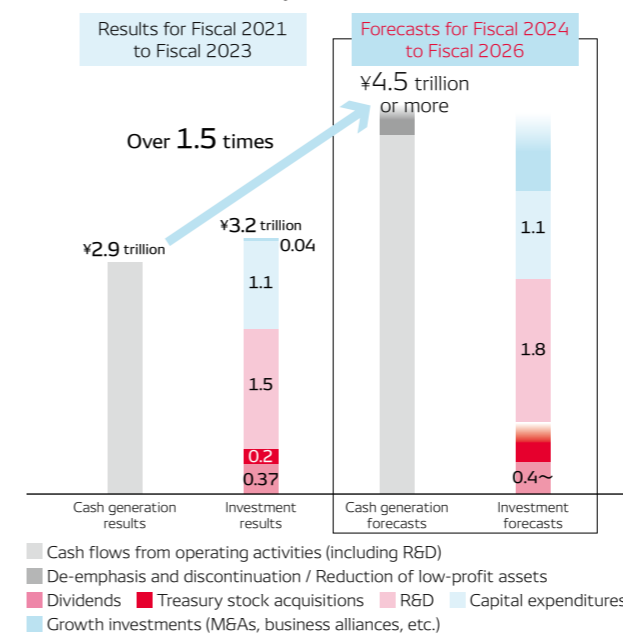
DENSO has steadily reinforced its profit structure through ROIC-minded management. As a result, we have generated a total of ¥2.9 trillion in cash flows from operating activities over the three-year period from fiscal 2021 to fiscal 2023, even amid the COVID-19 pandemic and a worsening external operating environment, including semiconductor shortages. Over the next three-year period starting from fiscal 2024, we will aim to generate ¥4.5 trillion or more in cash through the further reshuffling of our business portfolio and reduction of low-profit assets.

Meanwhile, we will seek to enhance investment efficiency by thoroughly examining capital expenditure projects, striving to maintain these expenditures at around the same level as depreciation in a highly disciplined manner. For R&D expenditure, we will step up software development, primarily for ADAS, as software becomes more deeply integrated into our products.

With a view to fiscal 2026, we also believe that growth investments such as M&As and business alliances, in addition to in-house manufacturing, are essential to the growth of our businesses and the realization of the DENSO Philosophy. To that end, we will proactively utilize borrowings to implement large-scale investments, as needed, in an effort to achieve business growth and improve our capital structure.

1. Reinforce profit structure 2. Reduce low-profit assets 3. Improve capital structure **4. Engage in dialogue with markets**

**Cash Allocation (Trillions of yen)**



We will also seek to strengthen stable, long-term shareholder returns through continuous increases in dividend levels and the proactive acquisition of treasury stock.

Through these initiatives, we will strive to maximize ROE and enhance corporate value on an ongoing basis.

**4. Engage in Dialogue with Markets:  
Increasing Communication Regarding Our Long-cultivated Non-financial Capital and Promoting the Appeal of Our Value Provision**

DENSO is communicating information to investors and analysts in a timely and appropriate manner and advancing dialogue through efforts by corporate officers. Through these activities, we aim to reduce information gaps with capital markets and expand our equity spread by reducing the cost of shareholders' equity.

In fiscal 2023, we created opportunities for dialogue, including arranging online meetings, with an aggregate total of 1,500 companies, an increase of approximately 1.5 times compared with the previous fiscal year, amid ongoing restrictions on communication with investors imposed by the COVID-19 pandemic. We communicated the opinions received through these dialogues at meetings of the Board of Directors and other official in-house organizations. We also worked to deepen investor understanding of our operations by incorporating these opinions in DENSO DIALOG DAY 2022 activities and a briefing session on our semiconductor strategy.

Please see the Status of Dialogue section of our corporate website for more details.  
<https://www.denso.com/global/en/about-us/investors/status-of-dialogue/>



Moreover, we are ramping up initiatives from an ESG perspective, centered on our sustainability management, in light of the increasing attention being turned toward ESG investment. In addition to reducing business risks over the medium to long term, these initiatives will lead to an increase in the number of business opportunities for the Company.

For example, as human capital, intellectual capital, and other forms of non-financial capital have been garnering greater attention, we have been swiftly moving forward with investments in intangible assets, including those aimed at *Hitozukuri*

(the development of human resources) and R&D, based on the belief that such forward-looking investments will translate directly to corporate growth. There is no denying that investments in intangible assets have been integral to DENSO's ability to continuously provide value that preemptively addresses the needs of the times. We therefore recognize that non-financial capital will be a key factor underpinning our competitiveness over the medium to long term. Based on this recognition, we are ramping up forward-looking investment in non-financial capital.

Furthermore, we believe that communicating ESG information helps clear up any uncertainty regarding the future and helps reduce the cost of shareholders' equity. We therefore are working to quantify the benefits of investment in non-financial capital and clarify how such investment contributes to corporate value. This effort is an important element in ensuring that stakeholders accurately evaluate our growth potential. As an effort in this regard, in *DENSO Integrated Report 2023*, we have summarized the relationship between non-financial capital and financial value and introduced our individual capital strategies with a focus on this relationship. (Our Accumulated Capitals □ P.26-27)

In fiscal 2023, we received a second-place ranking in the Automobiles/Parts/Tires division of the 2022 Award for Excellence in Corporate Disclosure, in recognition of our IR activities. Furthermore, *DENSO Integrated Report 2022* received the Silver Award for excellence of the WICI Japan Integrated Report Award 2022, marking the second consecutive year our report has received this award. In these ways, our IR activities and stance on information disclosure have been highly evaluated by numerous institutions.

Additionally, we are working to enhance employee awareness of corporate value by actively utilizing our integrated report in-house. Moving ahead, we will reflect the various opinions we receive through dialogue with markets in our efforts to enhance the quality of our management.

**TOPIC: Establishing Environments for Facilitating Investment in the Company**

As of September 30, 2023, the shares of common stock owned by shareholders will be split into four shares for every one share held. Through this stock split, we will lower the minimum amount required for investment, thereby making it easier for a broader range of investors to invest in DENSO stock.

**Closing**

Over the past several years, we have continued to deal with an adverse operating environment, including the COVID-19 pandemic, semiconductor shortages, and the global surge in raw material prices. However, by continuing to earnestly pursue our goals amid such adversity, we believe we can become an organization that can provide value that preemptively addresses the needs of the times. Guided by this belief, we sought on a Groupwide basis to reinforce our profit structure. As a result, in fiscal 2023 we achieved record-high operating profit for the first time in five years.

To continue to create corporate value moving forward, we will remain committed to aggressively promoting our financial strategies. In addition, drawing on the CASE domain and new businesses as growth drivers, I would like to promise the success of our efforts to de-emphasize and discontinue mature businesses and further accelerate the creation of corporate value. I am sure that these efforts will allow us to show you an even stronger DENSO. We ask that you look forward in anticipation as we pursue these endeavors.

## Human Capital

### Outline of Efforts to Strengthen Human Capital

The starting point for providing society with new value is the ability of our people and organization to turn ideas into reality. With this in mind, we will advance human capital-focused management to ensure that all DENSO employees have aspirations and ambitions; benefit society, customers, and coworkers; and become a “group of professionals with the ability to turn ideas into reality.” We believe that, by combining the strengths of our people and organization, we can develop our distinctive ability to turn ideas into reality even further. Based on this belief, DENSO has set out its PROGRESS vision and action plan, calling for the reform of human resource initiatives and systems to support employees as they continue taking on challenges and achieving change.



### Background to Our Emphasis on Strengthening Human Capital

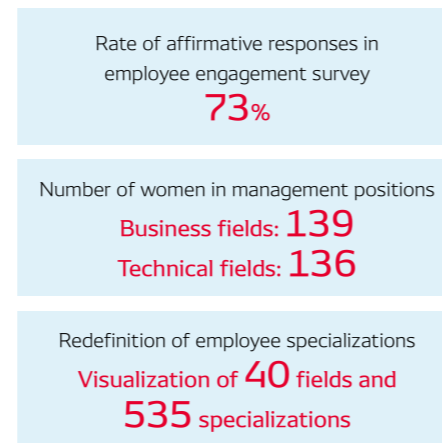
We believe that human resource development supports manufacturing and R&D. This has been our philosophy since our founding in 1949. Accordingly, we view people as our most important form of management capital, and we have tirelessly accumulated competence that allows us to provide new solutions and address social issues. We call this competence “the ability to turn ideas into reality.” Thanks to our accumulated competence, we have created more than 180 world-first technologies and products. In 1954, DENSO established technical training schools to strengthen its technologies and skills. Tracing its roots back to these schools, DENSO Industrial School continues to train technicians. To date, the school’s students have won more than 70 medals at the WorldSkills Competition.

As the automotive industry undergoes major structural changes, DENSO aims to provide new solutions not only in mobility but also in industry and society. To these ends, we will enhance our ability to turn mass production ideas into reality—which entails meeting quality, cost, and supply requirements—as well as our ability to turn business ideas into reality by realizing customer value and services-based business models and partnerships with companies in other industries.

### PROGRESS: A Vision and Action Plan for Our People and Organization

Aiming to become a “group of professionals with the ability to turn ideas into reality,” we have established the PROGRESS vision and action plan for our people and organization. Under this plan, since fiscal 2022 we have been reforming our organization as well as specific human resource initiatives and systems so that employees can continue to evolve and pursue ambitious initiatives. DENSO’s ideal employees are professionals committed to taking on the challenge of achieving new personal bests, while the Company’s ideal organization provides a platform for the co-creation initiatives and interaction of diverse professionals. We believe that, by combining the strengths of

### Characteristics of DENSO’s Human Capital (Fiscal 2023 results)



our people and organization, we can develop our distinctive ability to turn ideas into reality even further. In line with this belief, we have set out the PROGRESS vision and action plan, which reflects our commitment to professionalism as well as to progress (evolution and ambitious initiatives). The plan calls on us to support employees in continuing their ambitious initiatives and evolution by reforming human resource initiatives and systems between fiscal 2022 and fiscal 2024. These reform efforts are focusing on four pillars: career, learning and growing, evaluation and compensation, and workstyles and culture.

### Our Approach to Human Capital-Focused Management (Value Creation Path)

The remainder of this section provides an overview of the human capital enhancement initiatives being implemented under PROGRESS as well as the benefits they will achieve and the value they will provide.

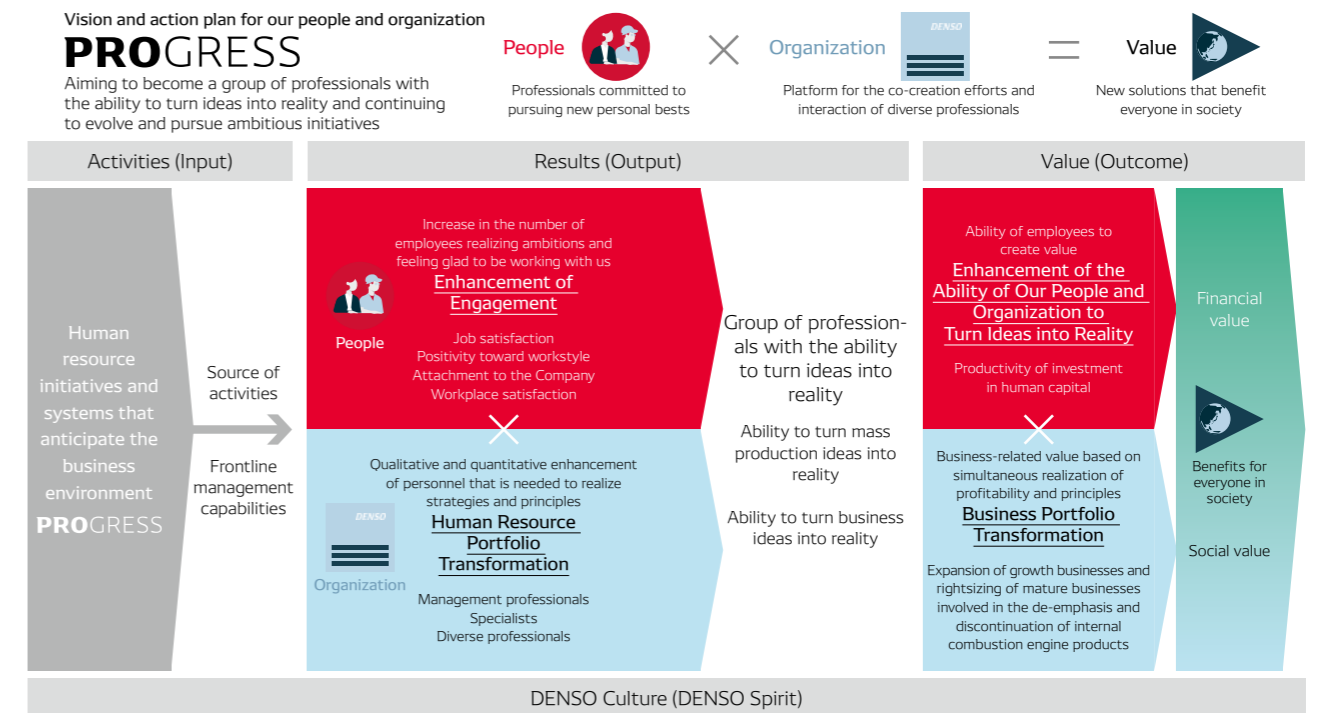
Reform of human resource initiatives and systems that anticipate the business environment will achieve our personnel and organizational objectives. With respect to our personnel, we will increase the number of employees realizing their ambitions and feeling glad to be working with us. As for our organization, we will achieve the qualitative and quantitative enhancement of human resources that is needed to realize our Strategies for “Green” and “Peace of Mind” and principles. By setting out quantitative key performance indicators (KPIs) for both the enhancement of employee engagement and the transformation of its human resource portfolio, DENSO will ensure the reform of human resource initiatives and systems.

However, reform of initiatives and systems does not produce immediate results. Therefore, we are carefully managing initiatives and systems with the goal of allowing frontline employees to really feel the benefits of reforms before they change their mindsets and behavior. Such frontline management capabilities are essential in maximizing the effectiveness of initiatives and achieving desired results.

#### Four Pillars of PROGRESS

Career: PROGRESS Design	Career design system, strengthening of specialization, career innovation program, in-house recruitment, etc.
Learning and Growing: PROGRESS Development	Fostering of management leaders, trainee system, co-creation program for cross-industry partnerships, etc.
Evaluation and Compensation: PROGRESS Drive	Role- and performance-based evaluation and compensation system, benefits that support diverse lifestyles, etc.
Workstyles and Culture: PROGRESS Diversity & Digital	Initiatives to enhance engagement, development of personnel with competence in digital transformation, diversity (empowerment of women), etc.

### Our Approach to Human Capital-Focused Management (Value Creation Path)



To measure the value provided by human capital and facilitate the aforementioned frontline management, we have defined business portfolio transformation and the ability of our people and organization to turn ideas into reality as forms of value. The ability of our people and organization to turn ideas into reality is an indicator of how effectively human capital is being utilized and of whether value is being created for society. For this indicator, we use the productivity of investment in human capital, which is added value divided by investment in human capital. Business portfolio transformation refers to business-related value, which is created by simultaneously realizing profitability and the “green” and “peace of mind” principles through the inclusion in our business portfolio of growth businesses as replacements for businesses involved in the de-emphasis and discontinuation of internal combustion engine products.

By heightening employee engagement and augmenting the quality and quantity of personnel, we will empower employees to create even more added value as a “group of professionals with the ability to turn ideas into reality,” thereby increasing the financial and social value that we provide.

### Enhancement of Engagement

At DENSO CORPORATION, we conduct an employee engagement survey annually, targeting all of our roughly 45,000 employees, who belong to approximately 2,500 workplaces. The survey results show that job engagement corresponds to individuals’ willingness to take on ambitious goals and that organizational engagement corresponds to the ability of workplace teams to achieve results. The percentage of affirmative responses with respect to job satisfaction and positivity toward workstyle (job engagement) as well as in relation to workplace satisfaction and attachment to the Company (organizational engagement) increased from 70% in fiscal 2022 to 73% in fiscal 2023. Our goal is to raise affirmative responses to 78% by fiscal 2026. (Non-Financial Highlights [\[P.121\]](#))

Based on analysis of the survey results, we are improving our initiatives. More specifically, we are helping employees realize career goals and creating open workplaces full of vitality—important initiatives for increasing job and organizational engagement.

### 1. Helping Employees Realize Career Goals

With the aim of helping employees envision the professionals they want to become, we hold age group-based training that covers employees from their 20s through to their 50s and provides them with opportunities to reflect on their career plans. Moreover, we aim to achieve a 100% implementation of career interviews and dialogues between supervisors and subordinates. In particular, targeting approximately 3,200 supervisors, we hold mutual study sessions on cultivating empathy with the Company’s goals by effectively instilling in personnel an understanding of the purpose of the organization and the significance of their work. We also provide these supervisors with practical training sessions on conducting dialogues with subordinates and supporting career realization three times a year. Further, DENSO is enhancing its career consultation office and various other facets of the Company’s career support system. In addition, we are providing support by expanding in-house recruitment; increasing the number of employees who train outside the Company, including training at companies in other industries; and developing an environment for self-education on specializations and skills.

### 2. Creating Open Workplaces Full of Vitality

Based on the annual engagement survey, we classify workplace conditions into 11 categories based on levels of openness, job performance, and willingness to take on ambitious initiatives. We then encourage proactive improvement by giving all workplaces feedback on the results and examples of best practice. For workplaces with numerous issues, we use organizational development methods to provide support that is aimed at promoting mutual understanding between subordinates and supervisors. Thanks to these efforts, in fiscal 2023 the number of workplaces where employees show a high level of willingness to take on ambitious initiatives rose by 124 workplaces (approximately 5% of all workplaces) year on year.

### Human Resource Portfolio for Business Portfolio Transformation

Aiming to augment the quality and quantity of personnel so that we can simultaneously realize profitability and our

strategies and “green” and “peace of mind” principles, we have categorized our human resource portfolio into three types of professionals: management professionals, specialists, and diverse professionals. Based on these three categories, we are acquiring, developing, and deploying personnel.

### 1. Management Professionals Who Will Lead a Global DENSO

We hold global human resource development conferences, which are attended by all senior executive officers and focus on the discussion and implementation of training and placement that maximizes the performance of management candidates. The aim of these conferences is to systematically produce globally competent management leaders who will play key roles in business management and execution. Dedicated talent managers are undertaking in-depth analysis of individual management candidates with a view to developing a diverse group of 400 management candidates by fiscal 2026. In addition, our Global Leadership Development Program is strengthening the development of local personnel overseas through mutual study sessions and the assignment of personnel to global projects. The program is tasked with fostering local personnel so that they account for 50% of the heads of overseas bases by fiscal 2031.

### 2. Specialists Who Will Innovate and Create Value

With our sights set on a new era, we are advancing a Companywide reassignment of personnel from businesses involved in the de-emphasis and discontinuation of internal combustion engine products to growth businesses. Through in-house recruitment, stepped-up hiring, and other measures, we will realize a large-scale transition in our human resources by deploying approximately 4,000 personnel to the priority fields of vehicle electrification and mobility systems by fiscal 2026. At the same time, by providing opportunities for exchanges and collaborations among personnel in the mechanical parts, electronics, and software fields, we will develop professionals in the systems field who are able to design optimal combinations of products and functions from an upstream perspective. In the energy management field, which is becoming increasingly important as vehicle electrification progresses, plans call for doubling the current number of employees by fiscal 2026.

For employees, we are enhancing measures to increase expertise in each field. In the all-important software field, since fiscal 2022 we have been operating the Sommelier Certification Program, which objectively certifies the skills of software engineers, as well as recurrent education programs on software, which support personnel scheduled to transfer from positions in the hardware field to positions in the software field. As of March 2023, these recurrent programs have trained 210 employees,

who are expected to transfer to software-related positions.

Further, in fiscal 2023 we redefined and visualized the employee specializations required Companywide into 40 fields and 535 categories. We also categorized and visualized the specialization of approximately 15,000 office workers into five levels. Going forward, we will use the data from these recategorizations to strengthen the specialization of each employee.

Other initiatives include measures to improve the digital transformation literacy of all employees. Having categorized and visualized the digital tool utilization of all office workers into four levels, we will create opportunities for acquiring skills and putting them into practice with the goal of raising the percentage of personnel capable of advanced utilization of the latest digital tools to 50% by fiscal 2025. Regarding the approximately 22,000 employees engaged in frontline production operations, in fiscal 2022 we began providing one digital terminal to each employee, and we plan to complete distribution of digital terminals to all such employees by March 2024. Regardless of whether they work in offices or plants, all employees will use digital technologies to revolutionize the way they work.

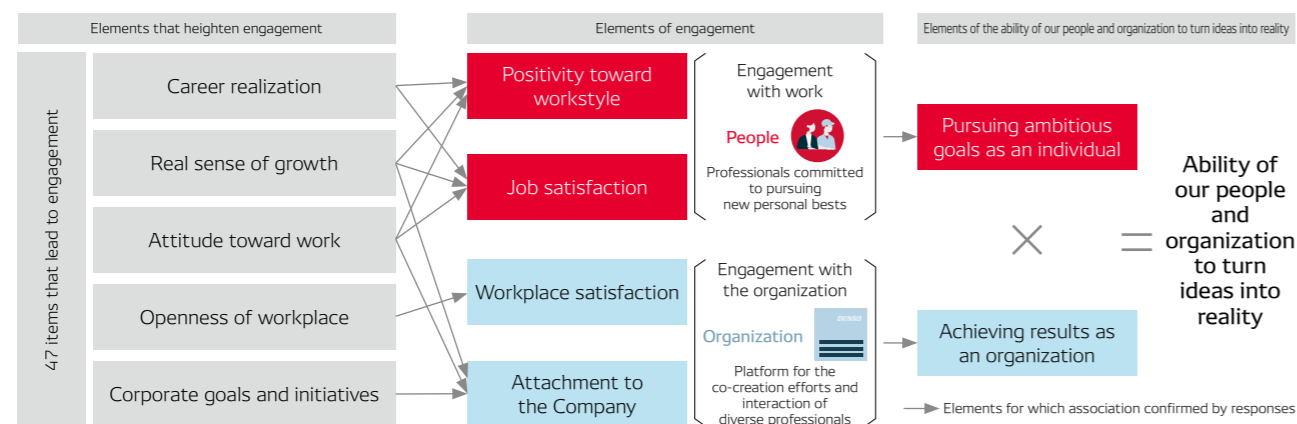
### 3. Diverse Professionals Whose Individuality, Values, and Experience Invigorate the Company

We are advancing global initiatives to realize a working environment and organizational culture that empower diverse professionals regardless of their gender, gender identity, sexual orientation, age, race, nationality, religion, and disabilities as well as unseen differences such as experience and values.

As part of efforts to empower female employees, we have established KPIs for: recruitment, balance between work and life events, and promotion. We have set targets for the number of female employees in career-track administrative and technical positions as well as the number of production-related female managers. Also, DENSO conducts diversity training for the supervisors of female employees and organizes roundtable discussions with female employees who serve as role models for other women. In Japan, North America, Europe, and India, we hold lectures, panel discussions, and other events on International Women’s Day. Moreover, we foster a sense of solidarity by encouraging personnel from respective countries and regions to participate in each other’s events.

In recognition of such efforts as our introduction of a partnership system and holding of events to promote understanding during Pride Month, we have received the highest rating of Gold in the PRIDE Index, which evaluates LGBTQ+ initiatives for sexual minorities.

Engagement-related association chart based on responses to a survey targeting all of DENSO CORPORATION’s approximately 45,000 employees



## Message from the Chief Human Resources Officer

### Becoming a Group of Professionals with the Ability to Turn Ideas into Reality and Heighten Corporate Value

Kenichiro Ito

Chief Human Resources Officer (CHRO)  
Member of the Board of Directors,  
Senior Executive Officer

### Wellspring of New Value: The Ability of Our People and Organization to Turn Ideas into Reality

Since its establishment in 1949, DENSO has viewed people as the most important form of management capital, focused on developing human resources, and practiced human capital-focused management that values people. We have not only concentrated on establishing healthy workplace environments where employees can work with peace of mind over the long term but also on encouraging employees to continue their growth through the pursuit of challenging targets. These efforts have given us the ability to create entirely novel things and to formulate solutions to intractable problems. In other words, we have the ability to turn ideas into reality, and this is the source of our competitiveness.

In creating new value going forward—as the drive toward carbon neutrality and other trends significantly reshape the business landscape—the ability of our people and organization to turn ideas into reality will be more critical than ever. We can continue to grow as a “group of professionals with the ability to turn ideas into reality” by maintaining close relationships

between employees and management and between subordinates and supervisors, by exchanging frank opinions, by enabling individual employees to excel and pursue new personal bests, and by realizing mutual improvement and teamwork.

Above all, the driving forces behind the implementation of human capital-focused management are an uninhibited, vibrant workplace culture—which has developed thanks to mutual trust between labor and management—and the DENSO Spirit, which provides our employees with action guidelines. To mark our 75th anniversary in 2024, we aim to redouble efforts to pass on our human capital-related strengths through a compilation of accounts of our history in each region worldwide and through the holding of DENSO Culture Day in which employees from various countries and regions share and discuss DENSO Culture.

As a group of professionals who work to benefit everyone in society, achieve solutions, and realize their own dreams and aspirations, we will forge ahead to build a company that resonates with local communities and to create value that delights customers.

### Output: KPIs, Results, and Targets

Situational Definition of Output Sought	Output KPIs	Output KPI Results	Output KPI Targets	
<b>Enhancement of Engagement</b> Increase in the number of employees realizing ambitions and feeling glad to be working with us	<b>Employee engagement indicator</b> (percentage of affirmative responses)	FY2022: 70% FY2023: 73%	FY2026: 78%	
	<b>Management Professionals</b> Globally competent management leaders who are systematically developed and deployed	<b>Number of management leader candidates</b>	FY2023: Approx. 400 employees	FY2026: 400 employees (increase diversity of human resources and likelihood of promotion)
		<b>Percentage of heads of overseas bases who are local personnel</b>	FY2022: 26% FY2023: 29%	FY2031: 50%
	<b>Human Resource Portfolio Transformation</b> Qualitative and quantitative enhancement of personnel that is needed to realize strategies and principles	<b>Specialists</b> Development of personnel in each field who can innovate and create value	<b>Realization of human resource portfolio requirements</b>	Clarified 535 specializations, which are in 40 fields, required to realize business portfolio transformation and then visualized the level of expertise of individual employees
<b>Average level of expertise among all employees</b> (out of 5 levels)			FY2023: Average specialization level of 2.8	FY2026: Average specialization level of 3.1
<b>Diverse Professionals</b> Diverse professionals whose individuality, values, and experience invigorate the Company		<b>Development of personnel with competence in digital transformation</b> (personnel capable of advanced utilization of the latest digital tools)	FY2023: Approx. 20%	FY2025: 50%
	<b>Number of female managers (in technical fields)</b>	FY2022: 130 employees FY2023: 139 employees	FY2026: 200 employees	
	<b>Number of female managers in technical positions (section heads and team leaders)</b>	FY2022: 136 employees FY2023: 136 employees	FY2026: 200 employees	

## Manufacturing Capital

### Outline of Efforts to Strengthen Manufacturing Capital

Manufacturing is DENSO's forte, and the Company has accumulated an abundance of excellent manufacturing capital that includes a network of production bases throughout the world and numerous highly skilled frontline employees. As the CASE revolution progresses, we are building a global production structure to enhance the satisfaction of customers in all areas of operation in terms of quality, cost, and delivery (QCD). At the same time, we are striving to reduce our environmental burden by conducting production activities with a commitment to world-leading environmental efficiency and high productivity. In these ways, we are working to evolve our manufacturing bases. We will also evolve plants by establishing DENSO-style digital-twin plants through a combination of our long-standing creative prowess—made possible by employees' collective knowledge and efforts—with scientific, data-enabled analysis capabilities.

#### KPI Targets for Fiscal 2026

Capital expenditures **¥350.0 billion**  
Planned investment in efforts to reduce CO<sub>2</sub> emissions  
**¥100.0 billion** (fiscal 2023–fiscal 2026)

### Reinforcement of Manufacturing Capital— Its Significance and the Value Created

To create new value and sustain growth in an era of major changes in business conditions, further enhancement of the manufacturing capital we have built up is essential.

In addition to existing initiatives to automate production lines, improve productivity based on data analysis, and reduce capital investment through disciplined investment decisions, DENSO is accelerating the development of manufacturing technologies for the creation of new value. These include technologies that anticipate the risk of future resource depletion, such as hydrogen technologies and technologies compatible with the use of recycled materials. In addition, we are leading the way in creating frameworks for the achievement of carbon neutrality in manufacturing. For example, we have introduced internal carbon pricing for investment decisions. Further, with the aim of minimizing costs, we are increasing efficiency through the bolstering of business continuity capabilities that ensure stable production even in volatile conditions. Business continuity measures include the utilization of bridge production and the maintenance of high-risk inventories at appropriate levels.

### Global Production and Supply Capabilities

In line with its basic principle of manufacturing in close proximity to customers, DENSO has built highly competitive production structures in six countries and regions: North America, South America, Europe, Asia, China, and Japan. At our production bases worldwide, we aim to achieve leading levels of quality, cost, and delivery in each region and realize *Monozukuri* (manufacturing) that is resilient to volatility. As well as reweighting our business portfolio to accommodate the increased production of connected, autonomous, shared & service, and electric (CASE) vehicles and to realize carbon neutrality, we are currently clarifying the roles of each region and plant so that we can stably deliver products to customers even when facing the semiconductor supply risks and various geopolitical risks that have emerged recently. Our goal is to build robust global production and supply capabilities that fully leverage DENSO-style *Monozukuri* know-how and production assets across the global supply chain, including our suppliers.

### Characteristics of DENSO's Manufacturing Capital (Fiscal 2023 results)

Capital expenditures  
**¥366.8 billion**

CO<sub>2</sub> emissions per unit  
**50% reduction (compared with fiscal 2013, non-consolidated)**

Number of regional production bases worldwide  
**127 plants in 25 countries**

In addition, to cater to the rapid progress in vehicle electrification, we are transitioning from internal combustion engine plants to electric vehicle component plants on a global basis. For inverters, a representative electric vehicle component, we started up production in Japan in fiscal 2006 and in North America and China in fiscal 2020, with production of these components slated to commence in Europe in fiscal 2024. Going forward, we will build production capabilities and ramp up production capacity globally with respect to electric vehicle components.

### DENSO-style Digital-twin Plants

To create even better products and production lines, we have worked to create a robust manufacturing foundation through Excellent Factory (EF) activities in which all employees participate on a daily basis. As for DENSO-style digital-twin plants, which we are currently advancing, people play the leading role. Through the combined use of ideas and creativity with a range of production-related data, we will encourage personnel to take the initiative in making improvements. In this way, frontline operations will continuously evolve. We will not only share accumulated data in plant operations but also link it with data from the engineering chain and the supply chain to increase the speed and flexibility of processes from development through to production.

Since 2019, DENSO has been steadily introducing its in-house developed Factory-IoT (F-IoT) system to Group companies in Japan and overseas and utilizing the system in day-to-day production and improvement activities. To accelerate improvement activities and enhance productivity even further, we have set up software workshops within plant facilities. These workshops enable personnel to develop their own apps, which significantly expedite the discovery and solution of problems. Plans call for development of our F-IoT system with the aim of introducing it to suppliers. A presentation on the concept of DENSO-style digital-twin plants was held at the head office's *Monozukuri* building in fiscal 2023. In fiscal 2024, we began introducing and verifying the concept at the Anjo and Daian plants, which are serving as model plants.



### Message from the Chief Monozukuri Officer

## Opening Up a New World of *Monozukuri*

**Jiro Ebihara**  
Chief Monozukuri Officer (CMzO),  
Senior Executive Officer

Business models are changing due to the instability of world affairs and the proliferation of CASE vehicles. Meanwhile, society is undergoing dramatic changes as a consequence of labor shortages and initiatives focused on climate change and resource recycling. DENSO will help address the social issues arising from these changes by placing importance on *Monozukuri* and *Hitozukuri* (the development of human resources) while remaining focused on the new era that is emerging. Thanks to our predecessors' farsighted establishment of global development, production, and supply capabilities, we already have development and manufacturing bases in regions worldwide, giving us the resources to deliver better products to our customers around the world.

Going forward, we will focus on the three tasks below so that we can adapt to diverse changes as rapidly as possible while implementing measures for the realization of carbon neutrality and a circular economy.

### 1. Rigorous Standardization and Digitalization

At DENSO plants, plant managers lead EF activities in which all employees participate in efforts to rigorously standardize work processes and operations. These improvement activities optimize the entire plant by focusing on not only the production line in question but also pre- and post-processes. Also, by utilizing simulations of virtual production lines to envision the movements of workers and verify automation and energy-saving benefits before production line start-ups, we create plants in which problems are readily identifiable. All employees then implement continuous improvement activities to address the identified problems. To further evolve these EF activities, we are currently building a platform that will digitalize current activities so that they can be made available as data for utilization by all personnel from design and production engineering managers through to on-site personnel.

### 2. Automation and the Development of Personnel with Digital Technology Literacy

With labor shortages becoming an issue in all industries, we will incorporate intelligent robots and combine AI and data science so that robots and machines can perform complex tasks previously performed by humans, such as incidental work and sensory inspections. In this way, we will realize safe, high-quality automated plants. Due to the introduction of digitalized and automated paper forms and other innovations, an increasing number of digital tools are available for the management of frontline operations. Therefore, we will reskill personnel so that they acquire literacy in digital technologies and can readily utilize such tools.

### 3. Digitalization throughout the Supply Chain

As well as sharing data within our plant operations, we will share it with suppliers and customers. Moreover, this data will not only enhance quality but also the ability of our supply chain to adapt to production fluctuations and risk actualization. In conjunction with these efforts, we will enhance the social value of our products by making available in reliable formats the traceability data necessary for verifying CO<sub>2</sub> emissions volumes and for verifying the history of reused and recycled materials.

The aforementioned initiatives will realize exciting frontline operations where all coworkers involved in manufacturing are able to engage in creative work and take on challenging new tasks. Our plants are proceeding with verification and implementation with their sights set on realizing such operations, which we refer to as DENSO-style digital-twin plants.

### Message from an Employee

#### *Monozukuri* Digitalization That Also Strengthens Team Unity

The digital terminals distributed to each frontline employee have revolutionized our work. For example, when a defect occurs in a manufacturing process, we used to explain the problem verbally. Now, however, we can use the terminal to photograph the situation, which leads to speedy and accurate analysis of the problem. When we are conducting inspections, the digital terminal enables us to perform a variety of tasks, from viewing work instructions and quality samples to managing the number of workpieces.

In addition, younger employees have taken it upon themselves to teach their teams how to use the terminals, which has had the unexpected benefit of stimulating communication throughout the team. We will continue utilizing the power of teamwork and digital technologies to tackle various *Monozukuri* challenges as a united team.



From left:  
Akane Oishi and Eiji Kawakami  
Production Section 6, Plug Plant, Daian Plant

## Intellectual Capital

### Outline of Efforts to Strengthen Intellectual Capital

To continue providing value to society in a turbulent era, we must understand the true needs of our customers and leverage our technological capabilities to offer them value that is ahead of its time. During a history of more than 70 years, we have driven business growth by extending the scope of our product R&D from the mechanical parts field to encompass electronics and software.

We will establish competitive advantages not only through mass production development but also through R&D that anticipates long-term changes in social conditions and technology trends and utilizes leading-edge technologies in such fields as semiconductors, materials, AI, and ergonomics. Moreover, DENSO will increase its competitive advantages by advancing intellectual property (IP)-focused management that is fully integrated with business strategies.

#### KPI Targets for Fiscal 2026

R&D expenditure **¥450.0 billion**

Including portion of asset capitalization and recovery of development expenditures

### Characteristics of DENSO's Intellectual Capital (Fiscal 2023 results)

R&D expenditure (ratio to revenue)

**¥521.6 billion (8.1%)**

Including portion of asset capitalization but excluding recovery of development expenditures

Number of patent applications filed

**Approx. 3,500**

Number of patents held

**Approx. 41,000**

### Business Portfolio Reform Aimed at the Ultimate Goal of "Zero"

Ten years ago, our business portfolio reflected market demand and consisted mainly of internal combustion engine products and conventional air conditioner products. Recently, however, this business portfolio has been undergoing major reforms. In fiscal 2023, electric vehicle components, advanced driver assistance systems (ADAS), and products of other growth businesses accounted for approximately 70% of overall revenue. Our goal is for growth businesses to double their revenue by 2035 and thereby drive the increase in our corporate value. Meanwhile, our de-emphasis and discontinuation of internal combustion engine products will roughly half revenue from these products by 2035. Further, we are pursuing R&D with the aims of medium- to long-term business expansion and commercialization in non-automotive fields and other new business fields related to the connections between five essential elements, which are explained in greater detail later in this section. Through these business portfolio reforms, DENSO aims to realize carbon-neutral *Monozukuri* and eliminate traffic accident fatalities.

We have also begun to reform our business model based on medium- to long-term changes in the business environment. As well as offering conventional tangible value realized through hardware, we will respond to the increased rollout of software-defined vehicles (SDVs) by emphasizing intangible value created through software development. In this way, we will heighten our competitiveness even further.

### Transition Strategy for the Realization of Business Portfolio Reform

In building the ideal business portfolio for the future, we have set out strategies for each product category based on the key goals of realizing our philosophy, accelerating our growth, and boosting our profitability in terms of return on invested capital (ROIC). To realize these strategies, we are optimally allocating resources and conducting efficient R&D.

In addition, our establishment of R&D capabilities in seven regions worldwide is enabling us to acquire talented engineers in each region and advance innovation based on regional characteristics and advantages.

While we are dedicated to improving in-house technologies even further, we are actively participating in a multifaceted range of partnerships and rulemaking initiatives through alliances, M&As, industry-government-academia collaborations, and technical liaisons. (Financial Capital [P.71](#))

### In-Vehicle Semiconductors—Helping Maximize the Value of Green and Peace of Mind

In-vehicle semiconductors are playing increasingly important roles in the popularization of electric vehicles and automated driving. We will engage in the dynamic, strategic development of these products by utilizing strengths cultivated during more than half a century of semiconductor research and by leveraging alliances.

In the sensors field, we have strengthened our in-house R&D organization and formed strong development partnerships with highly specialized vendors of semiconductors. As for the field of microcontrollers, systems-on-chips (SoCs), and other logic semiconductors—which are indispensable for heightening the performance of vehicle control systems such as ADAS—we are strengthening partnerships with specialized manufacturers so that we can utilize the latest advances in consumer technologies and establish capabilities for the leading-edge development and stable procurement of high-quality in-vehicle semiconductors. Similarly, in the field of power semiconductors we are meeting the rapidly growing demand for electric vehicle components by continuing to bolster in-house manufacturing capabilities while building partnerships that solidify the foundations of our competitiveness and supply capabilities.

### Growing Importance of Software

Recent years have seen the dawning of an era in which software adds new value to vehicles. Software is essential for the automated driving, BEV motor control, and energy management systems that are enabled by sensors, algorithms, and AI as well as for functions that facilitate the downloading of upgraded software from cloud computing services in the same manner as smartphone systems are upgraded. As a result, software development is expected to account for 50% of vehicle development by 2030, compared with a level of roughly 20% in 2000.

Anticipating this shift, we are strengthening R&D and personnel training in the software field. (Message from the Chief Software Officer [P.85](#))

### Strengthening Capital to Grow Businesses and Address Social Issues

Over its long history, DENSO has acquired manufacturing with high levels of efficiency and quality, robust business foundations, advanced R&D, and three-pronged solution capabilities. Forged through years of business with our customers, these strengths cannot be easily replicated. Our strengths enable us

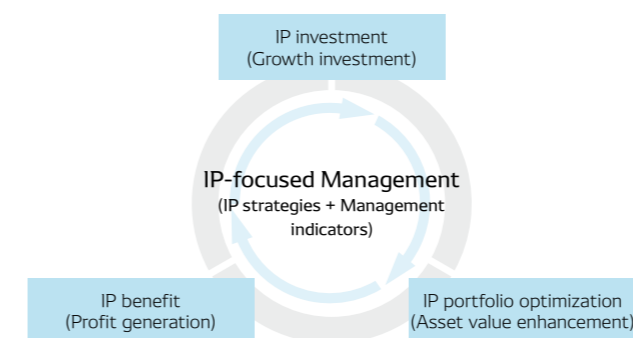
to go beyond manufacturing that focuses on components in isolation and create truly valuable products and systems as a comprehensive system supplier.

DENSO aims to address social issues and realize new value creation, profit growth, and capital cost reduction that enhance corporate value. To these ends, the Company will pursue a range of initiatives. We will advance initiatives to create world-best and world-first products through leading-edge technology research. The Company will also implement initiatives to increase sales in the connected, autonomous, shared & service, and electric (CASE) vehicle field by investing in and deploying personnel to growth fields. Other initiatives will focus on establishing competitive advantages inside and outside the automotive industry by increasing the creation of patents that can be utilized by other companies.

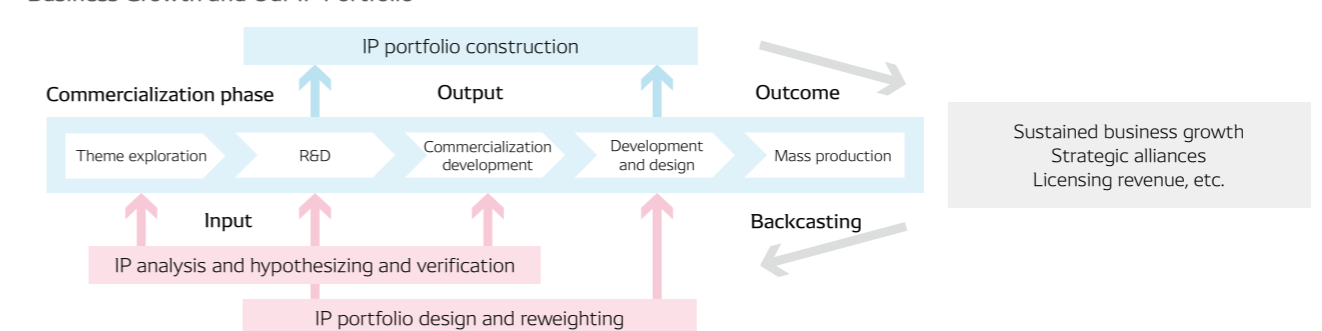
In addition, by utilizing an "ROIC tree" in-house, we are able to visualize how the intellectual capital-strengthening activities and KPIs of individuals and departments are connected to improved development efficiency, new product launches, new sales expansion, and improved ROIC. Also, we are improving development efficiency—especially in software development, which requires many man-hours—by automating testing processes to shorten the development lead times. As a result, we have achieved efficiency improvement benefits that are more than twice the amount invested. Thus, we are implementing rigorous countermeasures to heighten our competitiveness even further. (Financial Capital [P.67](#))

### From IP Strategies to IP-focused Management

In addition to the IP strategies that DENSO has advanced for individual businesses and products, the Company is strengthening IP portfolio management by redefining the IP portfolio as an asset that is indispensable to the Company's sustained growth. In advancing these activities, our management, business, R&D,



### Business Growth and Our IP Portfolio



and IP divisions are holding dialogues to further bolster a cycle of IP asset value enhancement, profit generation, and investment in growth as well as to elevate our IP strategies to the level of IP-focused management that benefits corporate management.

### IP Portfolio Design Activities Aimed at Enhancing Corporate Value and Sustaining Growth

As the added value of automobiles changes, we will focus on R&D in growth fields and new fields. In this way, we will steadily accumulate IP in these fields, which will serve as the foundations of future businesses. In addition, while identifying a value creation story and core technologies that help to address social issues, we have backcast from our DENSO R&D Policy Guideline to design a target profile for our IP portfolio. To realize this profile, we are both adding and removing IP from the portfolio.

In designing our Companywide IP portfolio, we have divided it into three levels: a Companywide level, a business level, and a development theme level. Based on a target profile for each level, we will add and remove IP. When replacing IP in this way, we are utilizing three new indicators. A leading indicator mainly emphasizes such new fields as Mobility as a Service (MaaS) and agricultural technology (AgTech) and shows trends in our future IP portfolio. In addition, a current indicator is primarily focused on battery electric vehicles (BEVs), ADAS, and other growth fields and measures the strength of our present IP portfolio. Meanwhile, a lagging indicator mainly reflects fields related to the de-emphasis and discontinuation of internal combustion engine products and shows the track record of our established IP portfolio. Based on these indicators and in step with product life cycles, we are pursuing IP investment that contributes to the strengthening of IP competitiveness and the realization of our future vision.

With respect to the aforementioned development theme level, at the stages beginning from the exploration of commercialization themes through to commercialization development, we will analyze vast amounts of IP information, including the patents of other companies, and establish and verify hypotheses in a timely manner. These efforts will allow us to provide input that contribute to product development activities. For example, we will clarify core technologies that both underpin competitiveness and help to address social issues. Through these activities, we will ensure that our achievements lead to IP rights that become company assets. We will enhance corporate value and sustain growth by advancing timely efforts aimed at maintaining price competitiveness through differentiation, building business ecosystems through strategic alliances based on IP, and obtaining licensing revenue in "open" fields through an "open/close" strategy.



### Long-term R&D and IP Strategy with a View to 2035

In recent years, pandemics, conflicts, and logistics disruptions have brought the movement of people and goods to a halt around the world, stagnating social and economic activities and forcing changes in social behavior. Meanwhile, coupled with technological innovations in AI, IT, and semiconductors, the automotive industry is undergoing dramatic structural change, and business conditions remain intensely competitive.

In this chaotic world, DENSO has hosted a series of discussions with internal and external experts to reexamine its overall direction as well as the kind of society the Company should help realize. As a result of these efforts, in fiscal 2023 we formulated our DENSO R&D Policy Guideline, which is based on five essential elements: the free movement of people, the flow of goods, energy utilization, minimization of resource requirements, and the flow of data.

Serving as a compass for Companywide R&D, the outline sets out a scenario divided into 10-year phases, which is aimed at continued realization of customer value and sustained business growth. Based on the green and peace of mind principles set forth in the Long-term Policy for 2030, the DENSO R&D Policy Guideline adopts the worldview of 2035 to express the future that we want to realize.

### Priority Development Fields

In relation to the aforementioned five elements, the DENSO R&D Policy Guideline defines priority fields that will be the focal points of development efforts.

Specifically, in the green field our priority areas are carbon neutrality, the popularization of electric vehicles, energy

management, and the circular economy, while in the peace of mind field they are automation (vehicles and *Monozukuri*) and information management.

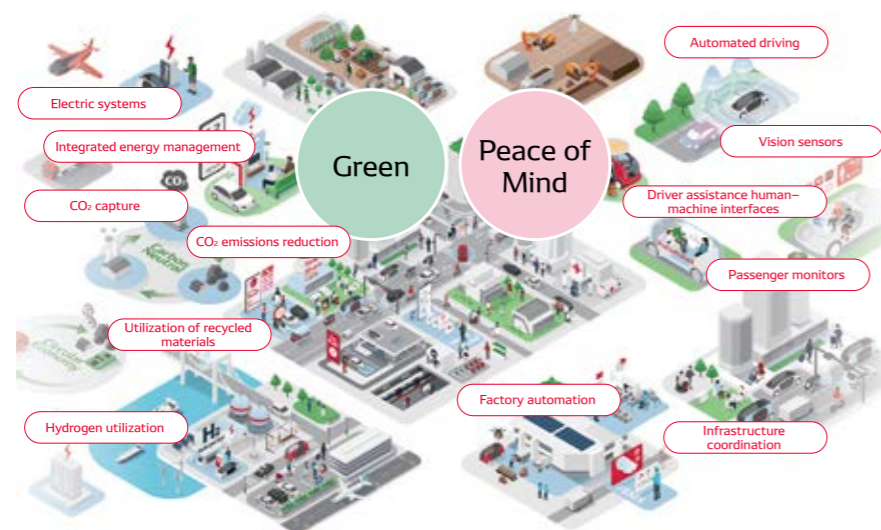
Based on the DENSO R&D Policy Guideline, we will connect academic and scientific fields with businesses and industries with a view to realizing high-value vehicles and *Monozukuri* that contribute to peace of mind, supporting the continuation of society's activities, and catering to diverse values and views of well-being.

### Carbon Neutrality

To achieve carbon-neutral *Monozukuri* by 2035, we aim to achieve carbon neutrality at our approximately 130 plants worldwide. Moreover, by ensuring that society benefits from these achievements, DENSO will contribute to the realization of carbon neutrality in society as a whole. We are developing technologies for the functions that constitute energy recycling systems—such as hydrogen generation and CO<sub>2</sub> capture and utilization—by applying and advancing technologies originally developed for automotive components. The areas covered by these technologies include electrochemical reactions, materials, processes, sensors, and heat and energy management.

### Popularization of Electric Vehicles

With a basic strategy of providing each country with the vehicle options best suited to it—which could mean BEVs, HEVs, or FCEVs—we are developing technologies focused on the three elements that are fundamental to the popularization of electric vehicles: motors, inverters, and battery management.



### Carbon Neutrality and the Circular Economy

Aiming to realize a sustainable mobility society through initiatives in the three fields of vehicles, *Monozukuri*, and energy utilization

#### Carbon neutrality

Achieve carbon-neutral *Monozukuri* by 2035 Energy utilization

#### Electrification

Popularize electric vehicles Free movement of people, flow of goods

#### Energy management

Pursue maximum energy efficiency and effective utilization of energy

Energy utilization

#### Circular economy

Establish collaborations between manufacturers and recycling companies to support continuous vehicle manufacturing Minimization of resource requirements

### Accident Free

Using sensors, human-machine interfaces, and ICT in combination to eliminate traffic accident fatalities and realize unrestricted mobility and to facilitate factory automation

#### Automation Vehicles

Establish automated driving and infrastructure coordination with a view to eliminating traffic accident fatalities by 2035 Free movement of people, flow of goods

#### *Monozukuri*

Realize *Monozukuri* that utilizes digital twins

Energy utilization, minimization of resource requirements

#### Information management

Establish secure data connections between vehicles and society Flow of data

For example, the development of highly efficient inverters will enable the creation of more-compact products, allow greater freedom in designs, and reduce air resistance. In addition, for next-generation silicon carbide (SiC) semiconductors, which can reduce power consumption by more than half compared to that of conventional silicon (Si) semiconductors, we will realize dramatic cost reductions by developing new manufacturing methods that extend back as far as the growth of crystals for semiconductor fabrication.

### Energy Management

As they lack the heat source provided by internal combustion engines, BEVs face issues such as having insufficient heat in cold climates and reduced battery performance at low temperatures. Another issue is the cooling of high-performance computers, which are becoming even more powerful with the evolution of automated driving. To overcome these issues and thereby improve driving distance and other aspects of vehicle performance, energy management for entire vehicles is critical.

DENSO is developing energy management technologies for entire vehicles by leveraging strengths it has fostered in the fields of thermal technologies, electric drive technologies, and connected driving technologies. With its sights set on making broader contributions beyond the vehicle field, DENSO is also developing energy management based on linkage between electricity infrastructure and vehicles that optimizes energy utilization across entire towns.

### Circular Economy

The objective of a circular economy is to both facilitate resource depletion countermeasures and sustain economic growth. This approach is particularly important for the future sustained growth of industry in Japan, which relies on imports for the majority of its resources.

Specifically, we will take advantage of robot and factory automation technologies, which have been fostered in *Monozukuri* activities, as well as cognitive and decision-making technologies, which have been established for advanced driver assistance and automated driving, to develop precision disassembly technologies that separate and extract used materials without waste. These disassembly technologies will provide us with high-quality, low-cost recycled materials. Further, we will build an automotive recycling ecosystem by working in partnership with recycling companies.

### Automation (Vehicles and *Monozukuri*)

As Japan's population ages, the number of seniors who find traveling challenging is expected to increase. Also, due to a shortage of truck drivers, road transport may only carry three-quarters of its current freight volume by 2028. To address these issues, we will utilize our in-vehicle semiconductor technologies as well as advanced semiconductors from semiconductor manufacturers and start-ups to further heighten the performance of cameras, radar, and light detection and ranging (LiDAR) sensors and to develop supercomputer-level in-vehicle computers that are compatible with high-speed, large-scale calculations.

In the field of *Monozukuri*, DENSO will utilize its competence in factory automation and cognitive and decision-making technologies to realize robotics-based automation across society—from factories and logistics through to AgTech and systems for urban development.

### Information Management

With the progress of IT, services that utilize user data are becoming ubiquitous in daily life. Similarly, in the field of vehicles, products and services that utilize vehicle control information and driver data are expanding, which is making information management indispensable. For this reason, we will pursue technological advances with a view to realizing data services. More specifically, we will develop and standardize data communications among vehicle-related products, security technologies, and in-vehicle operating system technologies that support these communications and technologies.

Regarding standardization efforts, the monitoring and disclosure of CO<sub>2</sub> emissions and recycled material usage of battery production is a growing global trend. Consequently, the construction of a data platform that connects manufacturers is required. Through a partnership with NTT DATA JAPAN CORPORATION, in 2022 DENSO began building a platform for standardized industry data by combining blockchain and QR Code® technologies.

### R&D Resource Management

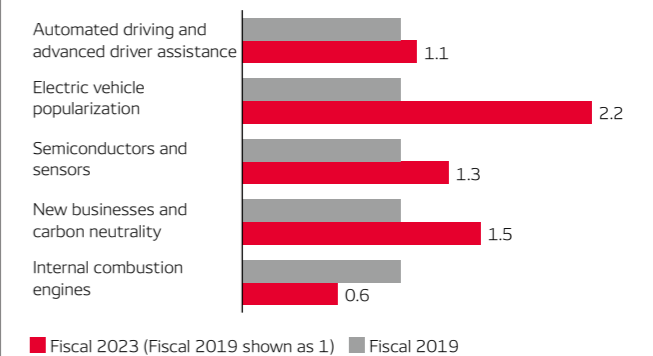
In sustaining business growth, we must conduct not only short-term development initiatives but also long-term research and early development. Over the past five years, DENSO has invested approximately ¥670 billion in leading-edge research and early development.

However, international politics and economics, industry, and technological trends have changed rapidly over the past five years. In response, DENSO has been reweighting its business portfolio by strategically shifting the focus of management resource deployment.

Comparing our current R&D expenditures in major fields with those of five years ago, we are continuing to invest in automated driving and advanced driver assistance; however, we are reducing investment in internal combustion engines while stepping up investment in electric vehicle popularization, semiconductors and sensors, new businesses, and carbon neutrality.

Going forward, while continuing to follow a basic policy that reflects its DENSO R&D Policy Guideline and priority R&D fields, DENSO will identify signs of change and undertake management resource deployment that adjusts the weighting of the business portfolio as needed. In this way, we will realize management of R&D resources that maximizes ROIC.

Changes in R&D Expenditures in Major Fields  
(Fiscal 2023 versus fiscal 2019)





Message from the Chief Technology Officer

Developing Technologies to Connect the Flow of Five Elements of Society and Promote a Cycle of Well-Being

**Yoshifumi Kato**  
Chief Technology Officer (CTO),  
Senior Executive Officer



Message from the Chief Software Officer

Software Strategies to Lead the Evolution and Future of Vehicles

**Atsushi Hayashida**  
Chief Software Officer (CSwO)

Supporting the Continuation of Society's Activities

Both as a supplier of vehicle systems that enable the free movement of people and the flow of goods and as a *Monozukuri* company, DENSO has a responsibility to support the continuation of society's activities and to balance global environmental protection with sustained economic growth.

With respect to the investment of management resources in technology development over the past five years, we have invested ¥600 billion in electric vehicle popularization, carbon neutrality, and other fields related to energy utilization in the green domain; ¥1,260 billion in advanced driver assistance, automated driving, and other fields related to the free movement of people and the flow of goods in the peace of mind domain; and ¥199 billion in common fundamental technologies.

As a result, in the green domain, the revenue of the Electrification Systems Business Group grew from ¥910 billion in fiscal 2019 to ¥1,040 billion in fiscal 2023. In addition, we have started up the mass production of BEV SiC inverters, which enable a significant reduction in power consumption. In the peace of mind domain, the Mobility Electronics Business, which is centered on ADAS and system control units, achieved a marked increase in revenue, from ¥1,110 billion in fiscal 2019 to ¥1,610 billion in fiscal 2023. During this period, we extended the range of accident scenarios covered by the Global Safety Package (GSP) sensor system for ADAS through the marketing of GSP2 and GSP3. In addition, for existing vehicles, we have been promoting the spread of safety devices by offering retrofitted devices that prevent accelerator pedal errors.

To achieve carbon-neutral *Monozukuri* and eliminate traffic accident fatalities by fiscal 2036, we will further accelerate the spread of our products throughout society by ramping up technology development and business scale.

Extending the Cycle of Well-Being from Vehicles to Society as a Whole Based on Five Elements of Society

Many of our efforts are aimed at offsetting the negatives, including initiatives aimed at carbon neutrality, the minimization of resource requirements, the elimination of traffic accident fatalities, relief for those who find traveling challenging, and increasing distribution efficiency through "white logistics." A positive cycle of well-being will take effect when we not only eliminate negatives but also provide new, positive value. To achieve this, DENSO will create new value by utilizing the flow of data to visualize and connect the free movement of people, the flow of goods, energy utilization, and minimization of resource requirements. Such connections will enable a cycle of well-being to extend beyond vehicles to encompass society as a whole.

For example, when a vehicle is running it has value in terms of the free movement of people and the flow of goods. If the vehicle is electric, however, it also provides value in relation to energy utilization by storing electricity when parked. Similarly,

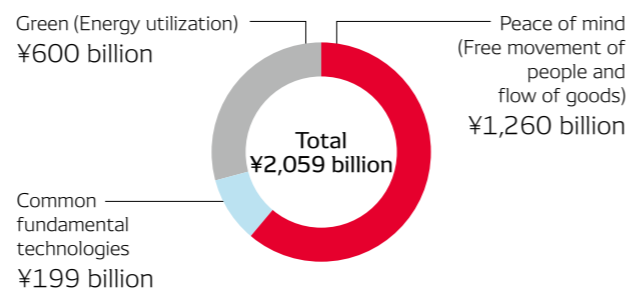
vehicles that can be recycled at the end of their service lives contribute value through the minimization of resource requirements. Moreover, the flow of data can be used to visualize the flow of these elements of society and also to connect the flow of different elements of society.

Our areas of expertise are in the movement of people and goods as a mobility-focused company, the optimization of energy and resources as a manufacturer, and data generation and management as the inventor of the QR Code®.

We will capitalize on these areas of expertise to advance development that connects things and information, manufacturers and customers, and people and vehicles. In this way, we will create and circulate new well-being value that connects society. Specifically, DENSO will conduct research on human nature and develop automated driving technology to eliminate traffic accident fatalities, provide relief for those who find traveling challenging, and advance white logistics initiatives; utilize catalyst technology in the development of fuel cells and systems for the capturing of CO<sub>2</sub> to help realize carbon neutrality; leverage factory automation technology for vehicle recycling to create systems for scrap vehicle disassembly and material sorting; and develop the QR Code® and quantum computing technology to enable the protection, distribution, and utilization of data.

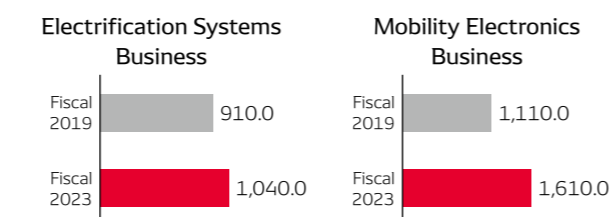
R&D Expenditures in the Domains of Green and Peace of Mind

(Total for fiscal 2019 to fiscal 2023)



Revenue

(Billions of yen)



DENSO's Three Core Software Strategies

To gain further competitiveness in the software field, where DENSO has distinct advantages, and to meet the expectations of our customers, we are advancing activities based on three core software strategies. The first strategy is to focus on the integration and optimization of software in each vehicle by leveraging our accumulated expertise in vehicle software. The second strategy entails accelerating both the establishment of global development capabilities and partnership strategies to provide value that accurately reflects the needs and trends of each region. Lastly, we will standardize software to contribute to the reliability and efficiency of the entire industry. Through the aforementioned strategies, we will increase the value of our software and provide the industry with strong leadership.

Utilizing Our Expertise in All Types of Vehicle Software

DENSO has been involved in automotive software development since the 1980s, when software was first used in vehicles. Since then, we have accumulated expertise in software for a lineup of products that covers all vehicle functions and includes powertrains, bodies, chassis, air conditioners, cockpits, and advanced safety systems. As software becomes more extensively incorporated into all automotive control systems going forward, we will take maximum advantage of our accumulated expertise to enhance the quality of our development and provide automakers and new customers with advanced software systems. Further, in realizing highly intelligent vehicles, we must provide solutions based on heightened cross-domain value. To this end, DENSO will achieve mutual cooperation among its different domains so that the Company can provide solutions for architecture design, integration, and other tasks.

Strengthening Global Development Capabilities Even Further

To move forward with software development, which is rapidly increasing in scale and difficulty, bolstering our development capabilities not only in Japan but in other countries around the world is critical. DENSO has established software development companies in each region and established development capabilities that capitalize on each region's characteristics and advantages. Also, since 2020 we have been developing software engineers by reskilling hardware engineers. We currently have 11,000 software engineers. By fiscal 2026, 12,000 software engineers will support our development capabilities. Moreover, to ensure that we significantly increase not only the number of software engineers but also their quality, we will visualize the skill levels of software engineers around the world through a

career innovation program (Sommelier Certification Program) and advance high-quality development initiatives globally. In conjunction with these initiatives, we will work with development partners to accelerate the co-creation of leading-edge AI, security, and data science technologies, which are indispensable for providing new value to the mobility society as a whole.

Contributing to Industries through Software Standardization

In all manner of industries, software development is driving up investment, making curbing the volume of development a pressing issue. We will build a cooperative ecosystem for industries overall by actively taking the lead in standardization through utilization of the relationships of trust built with customers as well as our experience in working with various industries and standardization organizations on security technology and platform software.

Creating Businesses through Software-Based Value Creation

While leading cooperative initiatives, we will establish software businesses that capture demand resulting from the proliferation of intelligent vehicles. To enhance the value of vehicles, we will enable realization of software's unique advantages. For example, we will offer integration and architecture design solutions for the creation of the latest application software and SoCs that are of the quality required for in-vehicle utilization. Further, we will roll out software updating services that offer value throughout vehicles' lifetimes. Building a diverse product lineup will allow us to provide a wide range of solutions that meet the needs of automakers, thereby achieving business growth in systems, mechanical parts, and electronics.

Continuing the New President's Legacy

Former CSwO Shinnosuke Hayashi is the first DENSO officer to become president after a career in the software field. Although a latecomer to the long history of the automotive industry, software is currently uniting the efforts of internal and external stakeholders, including customers, to evolve vehicles and enhance their value and is supporting the coordination among technologies and teams that is needed to create good vehicles. I believe that software has the power to connect people with people, things with things, and vehicles with society. Through co-creation and competition with the diverse industries and companies involved in the evolution of a mobility society, I will do my utmost to create the kind of forward-looking value that has always been our hallmark.

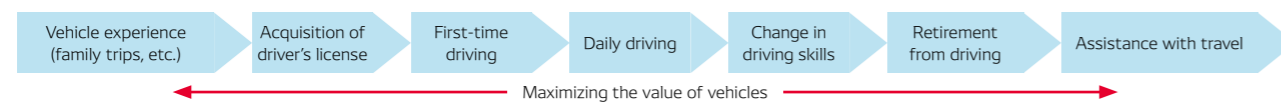
## Special Feature: Connecting the Flow of Five Elements of Society

### New Approach to Realizing a Cycle of Well-Being

Our approach of “connecting the flow of five elements of society” develops technologies and partnerships to create and maximize the value of green and peace of mind that will meet a broad range of needs going forward. Through this approach, we aim to ensure realization of the green and peace of mind strategies and the Long-term Policy for 2030, thereby supporting the continuation of society’s activities and catering to diverse values and views of well-being. This special feature gives examples of our approach in relation to the flow of each type of element of society.

**Vehicles That Offer the Value of Peace of Mind** DENSO strengths: Advanced driver assistance, automated driving, electric vehicle popularization, software, and quantum computing

#### 1. Free movement of people: Eliminating the negative effects of vehicles (traffic accident fatalities) and realizing vehicles that cater to diverse values



**Society's Needs**

Following changes in behavior and values in the wake of the COVID-19 pandemic, needs and values with respect to driving and vehicles are diversifying in each generation and country.

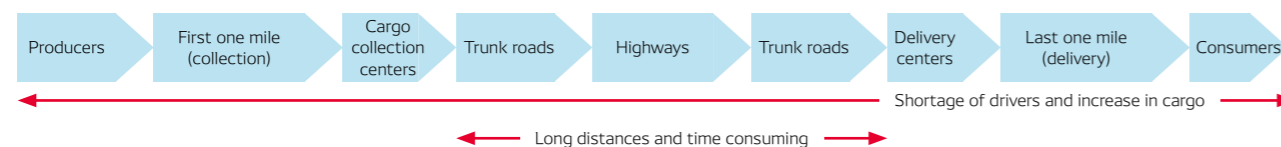
**Examples of Specific Initiatives**

**Providing New Experiential Value and Strengthening Our Electronic Platform and Software Development Capabilities**  
In providing vehicles that cater to diverse values, we will strengthen marketing globally. As part of this effort, we will identify the value that customers seek by acquiring direct feedback from them at experience-focused stores. DENSO will also identify the value sought by individuals through analysis of vehicle data. Based on our findings, we will update software to create electronic platforms that support the use of new features. To facilitate this software updating process, we will step up our software development efforts.

**Commercialization Strategy**

- Provide ADAS and promote the spread of these systems by reducing costs
- Market electrification systems for a wide range of applications

#### 2. Flow of goods: Eliminating waste and loss to support the environmentally and people-friendly movement of goods



**Society's Needs**

While cargo volumes are increasing worldwide, future shortages of truck drivers due to population aging and the contraction of working-age populations are a cause for concern, particularly in developed countries.

**Examples of Specific Initiatives**

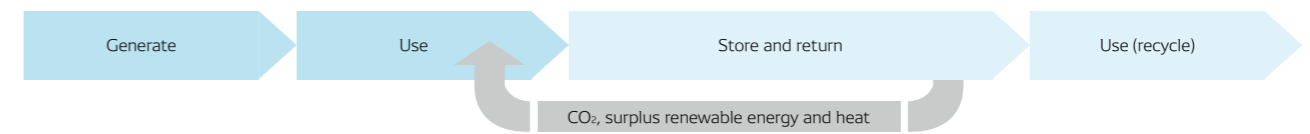
**Developing Multi-Modal Automated Driving and Advanced Operation Systems**  
To achieve automated driving in “last one mile” transport and other transport modes and to seamlessly connect them, we will collaborate with Aurora Innovation Inc. and develop automated driving for compact vehicles. We are also accelerating the development of a shuttle line of communication (SLOC) operation system and conducting verification tests. For example, the realization of a SLOC operation system will enable trucks to exchange their containers at a relay point gateway between Tokyo and Osaka and then return to their respective departure points, thereby eliminating long operation times and cargoless return trips. Our other initiatives include utilizing quantum computing to comprehensively optimize and enhance the efficiency of logistics.

**Commercialization Strategy**

- Commercialize solutions that optimize flows of people and goods

**Earth-Friendly Monozukuri** DENSO strengths: Technologies for electric vehicle popularization, internal combustion engine technologies, thermal technologies, robotics, and Monozukuri

#### 3. Energy utilization: Spreading DENSO's carbon-neutral Monozukuri throughout society and realizing an energy recycling society



**Society's Needs**

Due to the global issue of climate change, the decarbonization trend is accelerating. In addition, given the tight energy supply-demand balance, the promotion of renewable energy and a hydrogen-based society is essential.

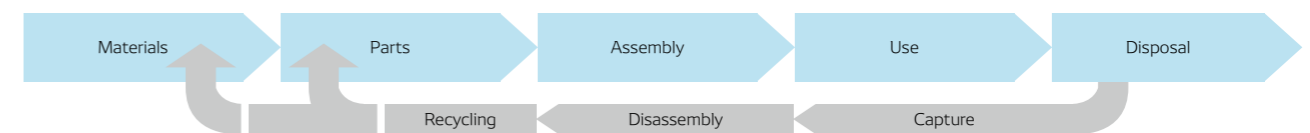
**Examples of Specific Initiatives**

**Realizing Carbon-Neutral Plants through the Effective Use of Renewable Energy**  
With the aim of realizing carbon-neutral Monozukuri, we are working on the effective use of renewable energy and the capture and reuse of CO<sub>2</sub>. In 2021, we began verifying the capture of CO<sub>2</sub> and its conversion into methane for use as fuel in plants. In the following year, DENSO began verification of the utilization of vehicle-to-everything (V2X) communication that enables vehicle batteries to be used as batteries for energy recycling systems. Most recently, we have introduced solid oxide fuel cells and solid oxide electrolysis cells to our plants and commenced verification of hydrogen generation and utilization. Our other initiatives include efforts to convert waste heat into electricity. Moreover, with a view to creating materials that efficiently convert energy, we are conducting basic research on optimizing the structure of materials at the atomic level.

**Commercialization Strategy**

- Commercialize energy recycling systems for plants
- Extend systems to establish town-use compatibility and roll them out

#### 4. Minimization of resource requirements: Achieving sustainable Monozukuri that curbs resource utilization to minimize environmental impact



**Society's Needs**

The amount of resources used for each vehicle must be reduced to comply with stricter requirements for the use of recycled materials in automotive manufacturing and to address such social issues as resource depletion.

**Examples of Specific Initiatives**

**Building an Ecological System to Recycle Automotive Resources**  
We are developing methods, structures, and materials suited to disassembly and recycling by using reverse engineering that leverages our Monozukuri technologies. Through precision disassembly that is enabled by robotics and automated driving technologies, DENSO is developing car-to-car technologies that extract high-purity materials\* from end-of-life vehicles and then transform them into environmentally friendly vehicles. We are also developing new, nature-friendly materials, including bio-derived materials and materials that do not contain rare earths.

\* Materials such as plastics and metals that contain few impurities

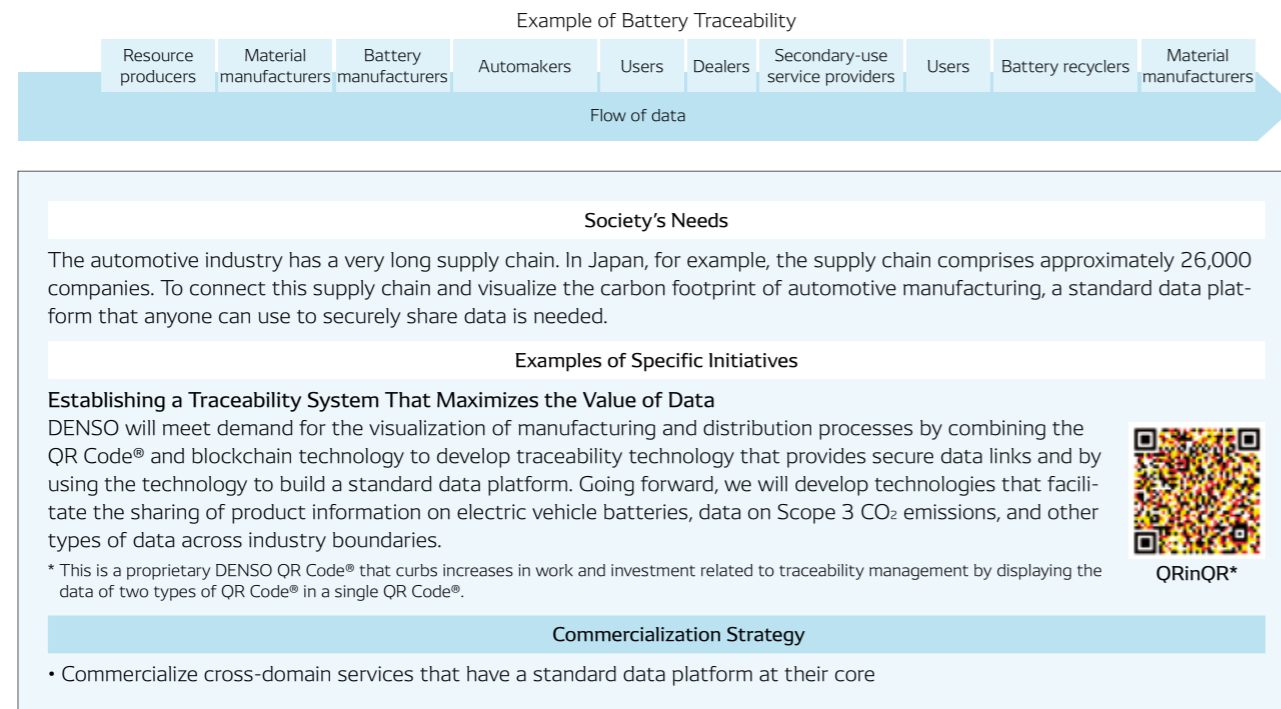
**Commercialization Strategy**

- Commercialize vehicle recycling through collaboration with recycling companies
- Launch external sales of automated systems for precision disassembly

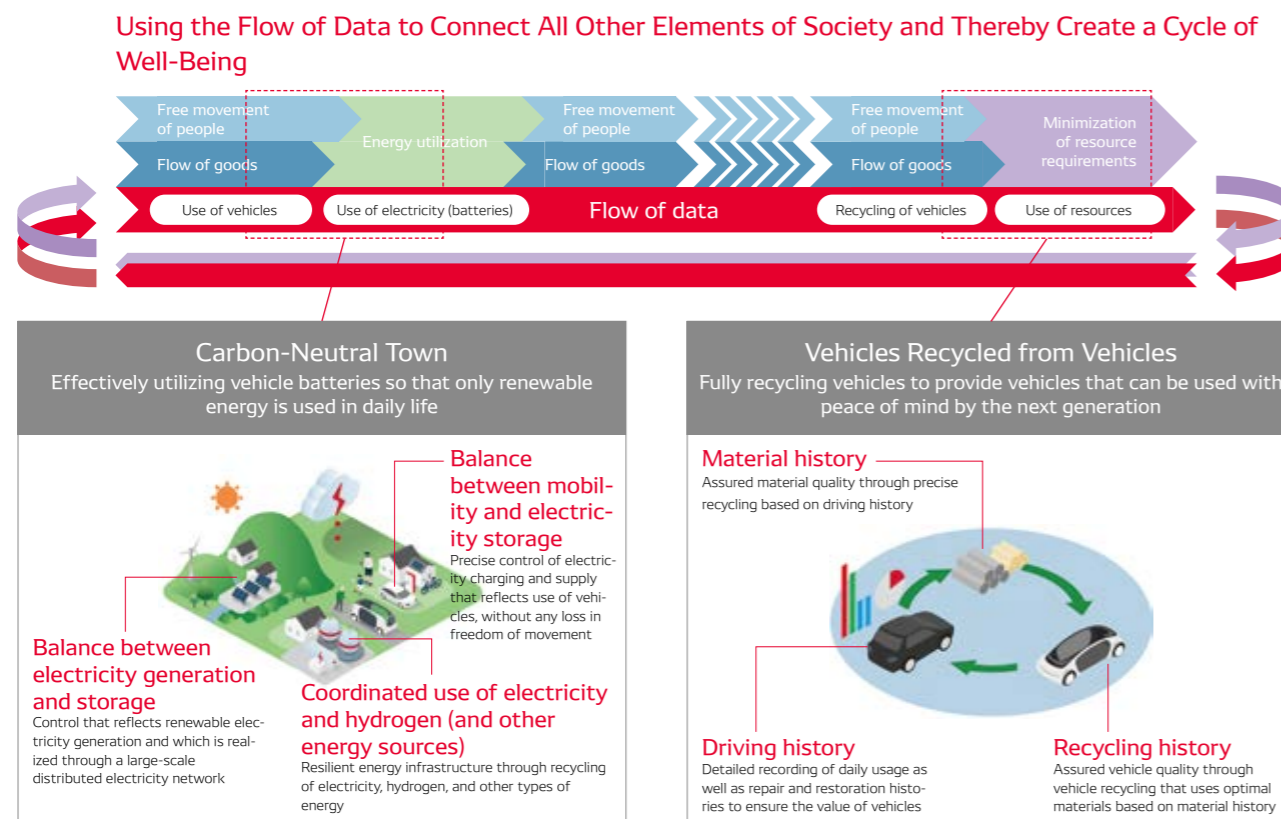
## Natural Capital

**Connection of the Flow of Elements of Society to Maximize Value** DENSO strengths: QR Code®, QR Code® readers, blockchain technology

### 5. Flow of data: Utilizing precise data to connect the flow of all elements of society and to connect people, vehicles, and society



### Value Obtained by Connecting the Flow of Five Elements of Society



### Outline of Efforts to Strengthen Natural Capital

DENSO's business activities have a close relationship with natural capital, including through the utilization of industrial water and the use of mineral resources as raw materials for its products. Maintaining and preserving natural capital is extremely important for DENSO. In particular, we believe we can help minimize the negative impact of the globally shared issue of climate change on natural capital and strengthen our corporate value by applying our long-cultivated environmental technologies to develop and popularize innovative environmental products.

Based on our Eco Vision 2025 environmental management policy, we assess natural capital from the perspectives of both risks and opportunities. We are pursuing environmentally neutral activities from a variety of angles, including enhancing the efficiency of natural capital use and reducing our environmental burden, thereby working to conserve the global environment and create economic value.

### Characteristics of DENSO's Natural Capital (Fiscal 2023 results)

CO<sub>2</sub> emissions (global)  
**1.41 million t-CO<sub>2</sub>e (Scope 1 and 2)**

Renewable energy usage amounts (global)  
**607,892 MWh (Renewable energy percentage: 22.8%)**

Notes: 1. The results figures reflect the use of carbon credits.  
2. The targets are production bases in Japan and overseas (including the Group's manufacturing companies).

### Climate Change Countermeasure—Zero CO<sub>2</sub> Monozukuri

DENSO is promoting the development of technologies for the production process and engaging in rigorous energy-saving activities with the participation of all employees. In addition, we are proactively promoting energy-saving activities to reduce CO<sub>2</sub> emissions, including Just-in-Time (JIT) activities that aim for the utilization and supply of just the right amount of energy at the necessary time. Under Eco Vision 2025, we aim to achieve the "energy half" target (reducing CO<sub>2</sub> emissions per unit by half compared with fiscal 2013). As of fiscal 2023, DENSO CORPORATION has achieved this target three years ahead of schedule, while Group companies are also expected to achieve the target ahead of schedule. (Fiscal 2023 results: DENSO CORPORATION, 50 [reduction of 50%]; domestic and overseas Group companies, 51 [reduction of 49%])

Going forward, we will continue to enhance energy-saving activities utilizing F-IoT and other technologies, and, at the same time, we will purchase electricity and gas derived from economically rational renewable energy sources, introduce self-power generation via solar panels, and gradually introduce at other plants our energy recycling systems currently undergoing verification tests. Through such efforts, we will aim to make our Monozukuri completely carbon neutral.

### Prevention of Environmental Pollution

DENSO is working to reduce the use of environmentally hazardous substances in its products in accordance with a basic policy of minimizing the use of chemical substances throughout product life cycles and taking into consideration trends in relation to the European Union's End-of-Life Vehicles Directive\*<sup>1</sup> and REACH Regulation\*<sup>2</sup> as well as other laws and regulations in respective countries and regions. In addition, chemicals handled at our plants are classified into "prohibited," "targeted for reduction," and "controlled" categories, and all chemicals used in our products are subject to integrated management under a proprietary control system. Based on these systems, we continuously promote efforts to reduce the usage and emissions of chemicals. At the same time, we are advancing the development of alternative technologies.

\*1 This directive came into force on October 21, 2000 and, in principle, prohibits the use of certain chemicals in new vehicles sold from July 2003 onward.  
\*2 This comprehensive regulation on chemicals came into force on June 1, 2007.

### Resource Depletion Prevention and Resource Recycling

With a view to achieving a recycling-based society, DENSO advances activities for the effective use of resources, which include minimizing waste and emissions, recycling, and reducing water consumption. For example, we are reducing waste generation for main materials (metals and plastics) and subsidiary materials (fats, oils, and chemicals) by developing resource-saving processing methods and designing products that result in less waste. Also, we are taking measures to reduce water consumption through the introduction of JIT water management, a management system that supplies water at the necessary time, in the necessary amount, and to the necessary place. Further, DENSO has established a recycling network through cooperation among customers, DENSO service stations (centers), DENSO SOLUTION JAPAN CORPORATION, and DENSO REMANI CORPORATION. By utilizing this network, we operate a component rebuilding business that recovers, reconditions, and ships alternators and starters whose quality is assured through performance testing of the same stringency as that used for new products.

### Biodiversity

Ecosystems are integral to natural capital, which is essential for our businesses. For this reason, we view the conservation of ecosystems as an issue directly related to corporate management. DENSO is conserving ecosystems through initiatives to address climate change, prevent environmental pollution, prevent resource depletion, and promote resource recycling. DENSO is also advancing external initiatives aimed at realizing both biodiversity conservation and business activities. In areas near our business bases, we bring together employees, their families, NPOs, and local communities to participate in initiatives focused on conservation and restoration of local ecosystems and protection of rare species.

### Iriomote Island yuriCargo Project\*—Using DENSO's Technology to Protect a Rare Species

In cooperation with the Iriomote Wildlife Conservation Center of the Ministry of the Environment, DENSO is conducting a project tasked with protecting an endangered rare species of Iriomote wildcat by eliminating its fatalities caused by vehicle traffic. The project is using the yuriCargo smartphone app, which has been provided by DENSO, to raise driving safety awareness among drivers on Iriomote Island in Okinawa Prefecture. The app encourages the island's drivers to drive safely and observe the speed limit by scoring their driving.

\* Period of project: May 17, 2023 to March 31, 2024

# Efforts to Maximize the Value of "Green"

Amid the pressing crisis of climate change, DENSO is exploring the ideal vision for a sustainable mobility society and is accelerating its sustainability management with a view to maximizing the value of "green," which is a target adopted under its Long-term Policy for 2030. In 2019, we pledged our support for the Task Force on Climate-related Financial Disclosures (TCFD). Since doing so, we have been carrying out a scenario analysis regarding the impact of climate change on our businesses and the opportunities and risks related to this impact. We have also been examining ways to reflect the results of this analysis in our business strategies. In this section, we introduce the status of the initiatives we are promoting in accordance with the TCFD.

## Scenario Analysis of Business Opportunities and Risks

To understand the impact of climate change on our businesses and to identify climate-related opportunities and risks, we referenced the external scenarios of the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC) and used them as benchmarks for our scenario analysis. Also, while confirming the scenario analysis for the automotive industry, we compared and contrasted this analysis with our awareness of the business environment existing under the Company's medium- to long-term strategies to hypothesize comprehensive scenarios. Upon doing so, we were able to identify climate-related opportunities and risks by analyzing the differences between our medium- to long-term strategies and these scenarios.

## Hypothesizing Scenarios

In terms of transition risk, we have defined the Beyond 2 Degrees Scenario (B2DS) and the Sustainable Development Scenario (SDS) of the IEA's World Energy Outlook as "promotional" and "ambitious" scenarios, respectively. For the scope of these scenarios, we quantified Group CO<sub>2</sub> emissions, carbon tax, crude oil prices, renewable energy rate, and the rate of new electric vehicle (xEV) introduction by 2040, and analyzed opportunities and risks based on the differences between these scenarios and Group strategies. Also, with regard to physical risks, we have defined the RCP8.5 and RCP6.0 scenarios of the Fifth Report of the IPCC as "stagnant" and "promotion" scenarios, respectively. We visualized aspects such as weather disasters, rising sea levels, deteriorating eco systems, and water and food shortages in a qualitative manner and analyzed opportunities and risks based on the differences between these scenarios and Group strategies.

## Analysis of Climate-related Opportunities and Risks

We performed an analysis on the differences between our awareness of the business environment, which forms the basis of our medium- to long-term strategies, and the circumstances under the scenarios above. Items expected to have an impact on our businesses of over ¥10.0 billion were identified as key items and categorized into opportunities and risks. In our business strategies and financial strategies, we will incorporate measures that address these opportunities and risks, thereby simultaneously tackling social issues and enhancing our corporate value. Major opportunities and risks identified through the aforementioned analysis are as follows.

Also, for more details on this analysis and evaluation, please see our answers to the CDP Climate Change Questionnaire.

### Major Opportunities

Key items	Timeframe / Level of impact	Major potential financial impact	Financial impact (fiscal 2026)	Response measures	Response cost (fiscal 2023)
Development of new products and services through R&D and technological innovation	Medium-term / High	<b>Increase in revenue due to higher demand for xEVs</b> Rise in demand for inverters and thermal products related to electrification and for technologies such as heat pumps that improve the heat efficiency of xEVs	¥360.0 billion	<ul style="list-style-type: none"> <li>Accelerate the development of technologies related to electrification—including power-saving technologies and compact high-output technologies—as well as the development of heat management technologies</li> <li>Promote the development of engine control systems and other technologies that respond to alternative fuel (e-fuel, hydrogen, etc.)</li> </ul>	¥90.0 billion
Diversification of business activities	Long-term / Medium	<b>Increase in revenue following higher demand for decarbonization technologies</b> Creation of business opportunities in such non-automotive fields as agricultural technology (AgTech) and factory automation (FA) by applying environmental technologies fostered in the automotive field and development of new technologies (energy utilization technologies) to capture, store, and recycle CO <sub>2</sub>	AgTech and FA, etc. ¥300.0 billion (FY2031) Energy utilization ¥300.0 billion (FY2036)	<ul style="list-style-type: none"> <li>Create technologies such as AgTech that leverage sensor, control, and robot technologies and create energy utilization technologies, such as those that leverage exhaust gas purification technologies</li> <li>Actively use business alliances</li> </ul>	¥17.0 billion
Utilization of more effective production and logistics processes	Medium-term / Relatively high	<b>Reduced energy costs through the promotion of energy conservation at plants worldwide</b> If we promote enhanced energy efficiency and are able to achieve our target under Eco Vision 2025 of reducing the amount of energy used per unit by half compared with fiscal 2013, we could achieve a CO <sub>2</sub> emissions reduction of approximately 1.65 million tons per year and reduce energy costs.	¥73.0 billion	Continue rigorous energy-saving activities; adopt low-carbon materials, equipment, and production processes; enhance production process efficiency through the introduction of Factory-IoT; and promote the development of energy-saving production technologies	¥9.0 billion

### Major Risks

Key items	Timeframe / Level of impact	Major potential financial impact	Financial impact (fiscal 2026)	Response measures	Response cost (fiscal 2023)
New controls and regulations placed on our existing products and services	Long-term / Relatively high	<b>Decline in revenue against the backdrop of increasingly strict regulations on fuel efficiency and exhaust gas</b> We expect even tighter regulations on fuel efficiency as well as acceleration in the transition to xEVs, including HEVs (comprising 47% of all vehicles in 2030). Non-compliance with regulations resulting from an inability to adapt to changes could cause a decline in unit sales.	¥400.0 billion	<ul style="list-style-type: none"> <li>Accelerate the development of energy-saving technologies for products powered by electricity with a view to extending driving distance</li> <li>Accelerate development aimed at enhancing fuel efficiency of internal combustion engines in HEVs and other vehicles to respond to new regulations on fuel efficiency</li> </ul>	¥88.0 billion
Increased severity and occurrence of abnormal weather such as typhoons and floods	Long-term / Relatively high	<b>Decline in revenue due to suspended plant operations and supply chain disruptions</b> Revenue could decline due to damage to in-house plants or supply chain interruptions that result in a suspension of plant operations in Japan and greater Asia, where we conduct 66% of our overall production and where the possibility of abnormal weather occurring is high.	¥110.0 billion	<ul style="list-style-type: none"> <li>Implement measures to mitigate the impact of disasters on buildings, etc., and strengthen risk management in the supply chain through such measures as ensuring multiple suppliers for components</li> <li>Connect our plants across the globe by using IT and IoT and establish a global production structure that can immediately respond to changing production needs</li> </ul>	¥9.0 billion
Carbon pricing mechanism	Medium-term / High	<b>Decline in cost competitiveness due to the accelerated introduction of carbon pricing</b> Carbon costs could be added to all in-vehicle products due to the expansion and increasing strictness of international regulations, such as carbon taxes and emissions trading systems.	¥12.0 billion	<ul style="list-style-type: none"> <li>Strategically and incrementally transition to renewable energy in manufacturing activities</li> <li>Continue to promote activities to conserve energy and enhance energy efficiency in the production process</li> </ul>	¥3.0 billion

## Impact on Management Strategy

As mentioned previously, based on the results of our analysis, we have come to understand the significant impact that the climate change-related opportunities and risks expected to occur by 2030 will have on our product development and production activities, particularly the trend toward carbon neutrality.

Based on this understanding, we have set ourselves the ambitious target of becoming carbon neutral—a much more challenging environmental target than we previously undertook—and we have reflected this target in management strategies.

Specifically, we have added the perspective of carbon neutrality to our CO<sub>2</sub> reduction plans under Eco Vision 2025, the Company's environmental management policy formulated in 2016. For our *Monozukuri* activities, we have adopted the target of realizing carbon-neutral electricity by fiscal 2026 (carbon credits to be used with respect to gas) and becoming completely carbon neutral, including gas, by fiscal 2036. To achieve this target, we will continue to promote energy-saving activities, an area in which we excel as a company. At the same time, we will introduce electricity derived from high-quality renewable energy that is optimally economic and utilize carbon credits, among other initiatives. To accelerate investments toward these kinds of efforts to reduce CO<sub>2</sub> emissions, including energy conservation and renewable energy, we have introduced internal carbon pricing (ICP) within our investment decision-making approach.

For mobility products, we are working to reduce CO<sub>2</sub> emissions to the greatest extent possible by promoting the development of electrification technologies. Furthermore, we are working to achieve negative CO<sub>2</sub> emissions through the establishment of technologies to capture, recycle, store, and reuse CO<sub>2</sub>. Through these efforts, we will aim to achieve carbon neutrality across all of society. Moreover, to balance contributions to the environment with business growth, we are holding regular discussions on reshuffling our business portfolio based not only on profitability and growth potential but also on CO<sub>2</sub> emissions and the reduction of these emissions and are promoting reshuffling efforts accordingly. (Message from the Chief Financial Officer [P.66-73](#))

We launched an expert team within the Safety, Health & Environment Division to serve as a structure for steadily promoting our carbon neutral strategy. At the same time, we have established the Environment Neutral Systems Development Division and the Energy Solution Development Division (previously the FC System Business Development Division) in a Companywide effort to realize carbon-neutral manufacturing, encompassing carbon neutrality throughout all processes through to the production activities at our plants.

Meanwhile, to respond to physical risks such as floods, which are increasing in frequency due to climate change, we are carrying out disaster mitigation measures at plants (including buildings and structures) and ensuring multiple suppliers for components and other materials so that we can minimize the risk of suspended operations due to damage at plants or disruptions in the supply chain. For additional support, we are introducing F-IoT platforms. Through such efforts, we will build a global production and supply structure that can immediately respond to production fluctuations caused by weather disasters or other adverse events.

Please see the following URL for more information on DENSO's Eco Vision 2025.  
<https://www.denso.com/global/en/csr/environment-report/management/ecovision/ecovision/>



## Impact on Financial Planning

Given the trend toward carbon neutrality, we must further enhance electric vehicle components and transition to components compatible with such alternative fuels as hydrogen fuel and biofuel. Furthermore, in order to realize carbon-neutral *Monozukuri*, we need to allocate funds to procure electricity derived from renewable energy sources and purchase CO<sub>2</sub> offset certificates and carbon credits.

To that end, in our financial planning, we have reflected an increase in R&D costs related to electrification, which will follow the expansion of products powered by electricity, and products that respond to alternative fuel needs. We have also reflected costs related to the introduction of renewable energy.

In addition, we have incorporated costs related to measures to address climate change risks (reinforcing buildings and structures), such as tornadoes, floods, and other abnormal weather events that are becoming ever more frequent and more severe.

## Governance

DENSO has established the Companywide Safety, Health, and Environment Committee, which shares short-, medium-, and long-term targets set with the aim of realizing the Eco Vision 2025 environmental management policy. The committee also shares the issues and progress of activities related to the environment in general, including the results of scenario analysis, and issues instructions on measures to be taken. Chaired by the executive vice president, the committee convenes twice a year. Matters deemed to significantly affect businesses, such as medium-term management strategies and major investments, are discussed at meetings of the Management Deliberation Meeting or the Board of Directors.

In particular, with respect to carbon neutrality initiatives, the Board of Directors determines the Company's targets. Based on these targets, the Strategy Deliberation Meeting and the Executive Workshop deliberate on medium- and long-term policies and strategies, while the Annual Plan Meeting deliberates on short-term policies, targets, and plans. Progress toward achieving the aforementioned targets is monitored at the Management Deliberation Meeting and meetings of the Board of Directors in which all officers participate.

## Risk Management

In a volatile business environment, DENSO always strives to actively identify diversifying risks and conduct risk management from the perspectives of minimizing damage and ensuring business continuity. Climate change-related risks are reported to the Companywide Safety, Health, and Environment Committee, which identifies key items and clarifies the Company's response.

Also, we have designated climate change-related risks (physical risks) as one of the major risks toward which the Risk Management Meeting should particularly invest resources and promote initiatives. Based on this designation, we are strengthening our response to these risks on a Groupwide basis from the perspective of overall risk management. (Risk Management [P.114-116](#))



### Metrics and Targets

In light of society's expectations and the progress of our activities based on Eco Vision 2025, in fiscal 2022 we set ourselves the more ambitious goal of becoming carbon neutral. Since then, we have been advancing activities with our sights set on this goal.

We clarified specific targets for this goal in the Mid-term Policy for 2025. At the same time, we incorporated a

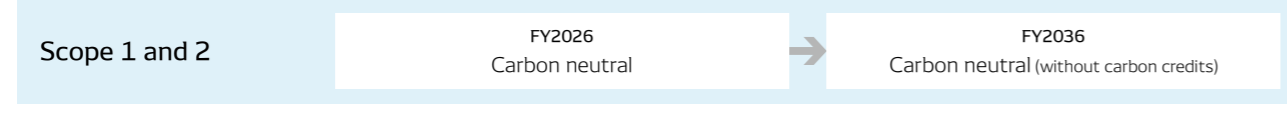
sustainability target pertaining to our material issues into part of our management targets. As previously mentioned, the status of progress and follow-up regarding these targets are shared not only at the Companywide Safety, Health, and Environment Committee but also at the Management Deliberation Meeting and the Board of Directors.

The specific company targets are shown in the table below.

### Climate Change-related Targets (CO<sub>2</sub> Emissions Reduction) (Benchmark year: Fiscal 2021)

Component procurement	Scope 3 (Upstream)	Monozukuri	Scope 1 and 2	Product use	Scope 3 (Downstream)
FY2031	Reduction of 25% (equivalent to well below 2°C*)	FY2026	Carbon neutral	FY2031	Reduction of 25% (equivalent to well below 2°C*)
FY2051	Carbon neutral	FY2036	Carbon neutral (without carbon credits)		

\* The target of keeping temperature increases well below 2°C, which is a Scope 3 target under the 1.5°C standard

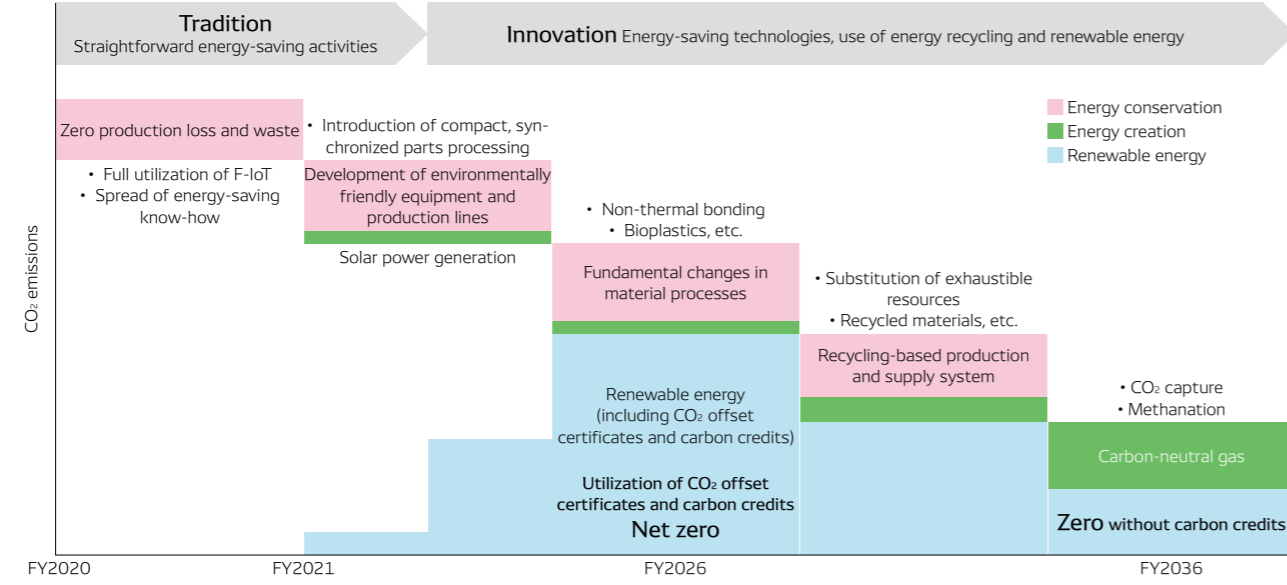


### Carbon-Neutral Monozukuri

**Aim** Achieve Complete Carbon Neutrality in Monozukuri

We aim to achieve carbon neutrality in Monozukuri by lowering CO<sub>2</sub> emissions through energy consumption reduction based on more-efficient manufacturing processes; by using such renewable energy sources as sunlight; and by developing and commercializing technologies that capture CO<sub>2</sub> emitted in production processes and reuse it as energy.

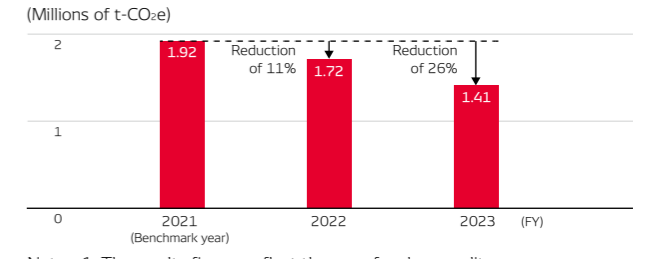
We will switch 100% of our electricity to renewable energy sources and use carbon credits for gas to become carbon neutral by fiscal 2026. By fiscal 2036, we will no longer use carbon credits and be completely carbon neutral.



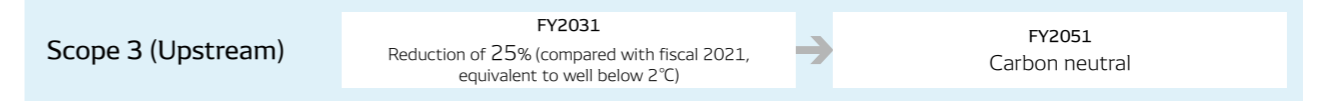
### Achievements to Date

We have reduced CO<sub>2</sub> emissions by 26% compared with fiscal 2021 by thoroughly implementing energy-saving activities, which are one of our long-standing strengths; by introducing renewable energy; and by utilizing carbon credits.

### CO<sub>2</sub> Emissions



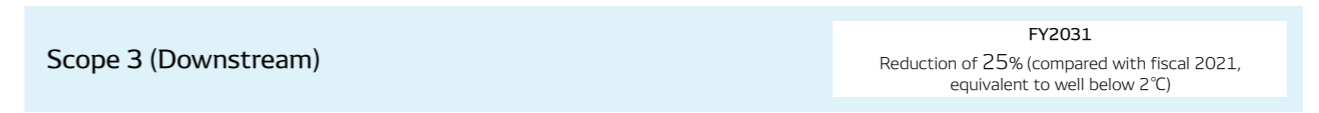
Notes: 1. The results figures reflect the use of carbon credits.  
2. The targets are production bases in Japan and overseas (including the Group's manufacturing companies).  
3. Fiscal 2021 results have been adjusted for the effect of the reduced production that accompanied the COVID-19 pandemic.



### Reduction of CO<sub>2</sub> Emissions in the Supply Chain

**Aim** Realize Carbon Neutrality through Collaboration between DENSO and Suppliers

Since the progress of the initiatives conducted by suppliers varies from one supplier to another, DENSO will monitor progress through active dialogue with suppliers and provide support suited to their issues. For example, we will provide information on energy-saving know-how and help suppliers procure renewable energy and transition to low-carbon materials.



### Carbon Neutrality for Electric Vehicle Components

**Aim** Contribute to the Electrification of Cars to Reduce CO<sub>2</sub> Emissions to the Greatest Extent Possible

We will help reduce CO<sub>2</sub> emissions from vehicle use by developing products and systems that support the popularization of HEVs, BEVs, FCEVs, and other xEVs. In addition, we will apply the electrification technologies cultivated in the automotive industry to the field of air mobility in an effort to significantly reduce CO<sub>2</sub> emissions in all facets of mobility.

### Reduction of CO<sub>2</sub> Emissions from Energy Use

**Aim** Realize an Energy-Recycling Society through the Development and Popularization of Technologies That Make Effective Use of Renewable Energy

We will establish technologies that store and reuse energy in a highly efficient manner, regardless of location or time, and work to popularize them on a global basis. By doing so, we will help realize an energy-recycling society.

### International Certification of Reduction Targets

We have established targets for the reduction of greenhouse gas emissions by fiscal 2031. These targets are based on scientific evidence and consistent with the goal of limiting the global average temperature increase to 1.5°C above pre-industrial levels, which is set forth by the Paris Agreement. As a result, our targets have obtained Science Based Targets (SBT) certification from the internationally recognized Science Based Targets initiative (SBTi).\*

\* The SBTi is a joint initiative established by World Wide Fund for Nature, CDP, the World Resources Institute, and the United Nations Global Compact. The SBTi formulates guidance that enables companies to set specific targets for the volumes and timeframes of greenhouse gas emission reductions. SBT certification is granted to companies whose targets are recognized to be in conformity with scientific findings (Science Based Targets).



We will continue conducting extensive studies and analyze in even greater detail the quantitative financial effects of key items as well as the specific business opportunities and risks that accompany them. We will then reflect our findings in business strategies and action plans.

## Social and Relationship Capital

### Outline of Efforts to Strengthen Social and Relationship Capital

DENSO advances its business activities while interacting with various stakeholders. Particularly in an era with an uncertain outlook, flexibly responding to social changes and needs on our own is extremely challenging. On the other hand, we believe that building good relationships with stakeholders and expanding our circle of associates will create new business opportunities and improve our competitiveness, thereby driving business growth and enhancing corporate value.

Furthermore, to avoid self-satisfying activities that are biased by our own logic and preconceptions, we are deepening our understanding of stakeholder expectations and options through dialogue with them and reflecting that understanding in our corporate activities. By doing so, we aim to become a company that is truly inspiring by realizing growth together with our stakeholders and society as a whole.

### Characteristics of DENSO's Social and Relationship Capital (Fiscal 2023 results)

Number of suppliers  
**Approx. 7,360**

Number of dialogues with institutional investors  
(total number of companies)  
**Approx. 1,500 per year**

### Initiatives to Enhance Corporate Value by Strengthening Relationships with Our Main Stakeholders



#### Employees

Relationship between Social Capital, Corporate Value, and Each Other Type of Capital	Initiatives to Strengthen Relationships	Gained Value (Outcome)
<p>As the collective wisdom and strengths of DENSO's employees worldwide create new value, enhancing employee engagement is essential for the Company to realize growth.</p> <p>Mindful of this, we will develop a corporate culture that encourages all employees to work with enthusiasm and realize their talents. As part of these efforts, the Company will reform workstyles and human resource systems and create employee-friendly work environments.</p> <p><b>Related Capital</b> Human capital, manufacturing capital, and intellectual capital</p>	<p><b>Expectations of and Points of Concern for DENSO</b> Workplaces that facilitate good communication, flexible workstyles, fair and appropriate personnel evaluation systems, active roles of diverse human resources, workplace environments that are safe, comfortable, and promote health, etc.</p> <p>↓</p> <p><b>Initiatives to Enhance Relationships</b> Employee engagement surveys, in-house publications and information dissemination via intranet, consultation centers (hotlines, general consultation office), social gatherings between labor and management, family days, etc.</p>	<ul style="list-style-type: none"> <li>Enhanced employee engagement</li> <li>Improved retention rate and decrease in turnover rate</li> <li>Increase in the number of improvements made by employees</li> <li>Decrease in work-related injuries and accidents, etc.</li> </ul>



#### Customers

Automobile manufacturers, automobile users, and customers in non-automotive fields such as agriculture and FA, etc.

Relationship between Social Capital, Corporate Value, and Each Other Type of Capital	Initiatives to Strengthen Relationships	Gained Value (Outcome)
<p>In addition to increasing business opportunities by encouraging adoption of the Company's products and services, robust relationships with customers strengthen the foundations of DENSO's competitiveness. For example, transactions with customers lead to the accumulation of new technologies and expertise, personnel development, and the establishment of optimal supply capabilities.</p> <p>Through ongoing dialogue with customers, DENSO will deepen its understanding of what they need and expect from the Company, thereby enabling the creation of products and services that satisfy customers and truly earn their trust.</p> <p><b>Related Capital</b> Financial capital, human capital, manufacturing capital, and intellectual capital</p>	<p><b>Expectations of and Points of Concern for DENSO</b> High-quality, high-performance products and services, products that address social issues, a stable product supply, a service network with a high level of customer satisfaction, etc.</p> <p>↓</p> <p><b>Initiatives to Enhance Relationships</b> Dialogue with customers through sales divisions and sales companies, new product exhibitions, joint R&amp;D activities, establishment of new companies through joint investment, a customer consultation center, public relations activities through corporate website and media channels, etc.</p>	<ul style="list-style-type: none"> <li>Acquisition of product share on a global scale</li> <li>Increase in the number of customers adopting our products/services</li> <li>Establishment of a mobilized global supply structure</li> <li>Acquisition of IP rights and creation of know-how, etc.</li> </ul>



#### Business Partners

Suppliers, service stations, and M&A business alliance partners, etc.

Relationship between Social Capital, Corporate Value, and Each Other Type of Capital	Initiatives to Strengthen Relationships	Gained Value (Outcome)
<p>The competitiveness of our products and services is underpinned by the high technological capabilities, know-how, and stable supply of our business partners. In addition, our efforts toward such matters as carbon neutrality and human rights due diligence require the understanding and cooperation of our business partners.</p> <p>Accordingly, we will strengthen our partnerships, provide products and services that inspire and are chosen by society, and engage in corporate conduct that helps us gain the support of society. By doing so, we will grow together with our business partners.</p> <p><b>Related Capital</b> Financial capital, manufacturing capital, and intellectual capital</p>	<p><b>Expectations of and Points of Concern for DENSO</b> Business expansion, business alliances, cross-industry exchange, information on business trends (procurement policies, service policies, etc.), support for responding to sustainability needs (the environment, human rights, etc.), leadership in addressing industry issues, etc.</p> <p>↓</p> <p><b>Initiatives to Enhance Relationships</b> Day-to-day communication, Supplier Appreciation Meeting, sustainability self-assessments, participation in industry bodies, General Meeting of DENSO Service Stations, servicing skills competition, public relations activities through corporate website and media channels, etc.</p>	<ul style="list-style-type: none"> <li>High-quality, high-performance products</li> <li>Products that contribute to the environment and products that help reduce traffic accidents</li> <li>Establishment of a stable supply chain</li> <li>Establishment of an after-sales service network with a high level of customer satisfaction</li> <li>Realization of responsible procurement</li> <li>Reduction in Scope 3 CO<sub>2</sub> emissions, etc.</li> </ul>



#### Local Communities

Local community members, governments, NPOs and NGOs, people of the next generation, etc.

Relationship between Social Capital, Corporate Value, and Each Other Type of Capital	Initiatives to Strengthen Relationships	Gained Value (Outcome)
<p>For business continuity, we must realize coexistence and co-prosperity with the regions where we have businesses and gain acceptance as a good corporate citizen in these regions. Also, confronting regional issues gives employees opportunities to develop an awareness of the need to address social issues, which is an important facet of business activities.</p> <p>We will therefore identify the needs of local communities through dialogue. By solving issues in partnership with local communities, we will contribute to their development.</p> <p><b>Related Capital</b> Human capital, natural capital</p>	<p><b>Expectations of and Points of Concern for DENSO</b> Local employment and procurement, community group activities, regional promotion (sports, culture), support for the development of the next generation, traffic safety activities, regional environment conservation, etc.</p> <p>↓</p> <p><b>Initiatives to Enhance Relationships</b> Conferences with local community members and governments, plant tours, <i>Monozukuri</i> schools, social contribution programs in collaboration with local NPOs, agreements with local governments for regional revitalization, public relations activities through corporate website and media channels, etc.</p>	<ul style="list-style-type: none"> <li>New business creation</li> <li>Acquisition of outstanding personnel</li> <li>Enhanced level of recognition for the Company</li> <li>Improved employee engagement</li> <li>Acquisition of opportunities for participation in regional revitalization businesses, etc.</li> </ul>



#### Shareholders and Investors

Relationship between Social Capital, Corporate Value, and Each Other Type of Capital	Initiatives to Strengthen Relationships	Gained Value (Outcome)
<p>Financial capital to invest in such areas as facility enhancement, R&amp;D activities, and human resource development is required in order to realize sustainable growth and enhance corporate value. For that reason, we understand that our shareholders and other investors are valuable supporters who provide us with advice on how to promote sound management. We therefore believe it is important to build solid trust-based relationships with them.</p> <p>By enhancing the transparency of our management through timely and appropriate information disclosure and dialogue, we will aim to enhance our corporate value.</p> <p><b>Related Capital</b> Financial capital</p>	<p><b>Expectations of and Points of Concern for DENSO</b> Appropriate share price, implementation of dividends and other shareholder returns, timely and appropriate information disclosure and opportunities for dialogue, disclosure of non-financial information, etc.</p> <p>↓</p> <p><b>Initiatives to Enhance Relationships</b> General Meeting of Shareholders, Dialog Day, financial presentations, technology briefings, briefings for individual investors, integrated report, securities report, public relations activities through corporate website and media channels, etc.</p>	<ul style="list-style-type: none"> <li>Formation of appropriate share price</li> <li>Improvement in stable, long-term dividend level</li> <li>Extension of years over which shares are held (reduction of share price fluctuation risk)</li> <li>Improvement in investor evaluation (credit rating)</li> <li>Enhancement of management quality</li> </ul>

### Undertaking Initiatives toward Respecting Human Rights

Against the backdrop of the rising interest toward sustainability around the globe, corporations are strongly expected to consider human rights within their business activities.

A workplace free of harassment and discrimination helps lower the risks of quality-related issues and work-related injuries. Further, conducting business activities with due consideration for human rights increases business opportunities, helps ensure stable supplies of products, and improves employee engagement.

Viewing respect for human rights as an important issue, DENSO has established it as a material issue of sustainability management and is advancing initiatives accordingly.

#### Human Rights Policy

Our Sustainability Policy and the Code of Conduct clearly prohibit labor practices or similar actions that infringe upon human rights, and we have worked to ensure rigorous compliance with these policies.

To advance human rights-related initiatives even further and comply with the Universal Declaration of Human Rights, the Guiding Principles on Business and Human Rights, and other international norms, we have formulated the DENSO Group Human Rights Policy as an individual policy on human rights.

#### Promotion Structure

We have established the Human Rights Promotion Team, which is headed by the chief human resources officer (CHRO), who is a member of the Board of Directors; managed by the human resources division; and comprises representatives from related divisions, including the corporate strategy, purchasing, and legal affairs and compliance divisions. The team formulates action plans, shares information on the initiatives of divisions, shares and discusses measures in response to the latest trends in human rights, and reports findings to the Management Deliberation Meeting and other meetings as appropriate.

In addition, the team exchanges information and engages in discussions with human rights experts, such as third-party organizations and external stakeholders, to gain a clear understanding of human rights and appropriately assess related international situations and legislative trends.

#### Promoting Employee Education and Enlightenment

DENSO promotes education and enlightenment activities for employees at each Group company with the aim of encouraging employees to act based on the DENSO Group Human Rights Policy.

Through education programs by grade (for corporate officers, newly appointed management, new employees, mid-career hires, and employees on a fixed-term contract, etc.) and compliance tests that target all employees, including those at domestic Group companies, DENSO CORPORATION is engaging in education and enlightenment activities to deepen employee awareness and understanding of human rights.

Overseas Group companies also conduct awareness-raising activities based on important issues in their respective regions. For example, in North America our bases establish internal policies prohibiting harassment and conduct education on mutual respect and sexual harassment prevention for all employees, from members of senior management to new hires.

### Human Rights Due Diligence

In accordance with the DENSO Group Human Rights Policy, we identify and evaluate human rights-related risks that can occur as a result of our business activities and promote human rights due diligence, which is aimed at implementing measures to prevent such risks and minimizing their impact should they occur.



Interview conducted by members of the Caux Round Table Japan

#### (1) Implementation of a Risk Assessment

With the cooperation of a third-party organization specializing in human rights, we have conducted a risk assessment to identify and evaluate potential human rights risks. As a result, four issues have been identified as potential human rights risks that are highly relevant to the DENSO Group. These include the rights of non-Japanese workers in Japan and complicity in forced labor in the supply chain.

#### (2) Implementation of an Impact Assessment: Non-Japanese Workers in Japan

Among the human rights risks identified by the risk assessment, human rights issues facing non-Japanese workers in Japan, particularly non-Japanese technical interns, are highly relevant, important human rights risks in the automotive supply chain.

DENSO has conducted written surveys of domestic Group companies and suppliers and confirmed the presence of approximately 2,500 non-Japanese technical interns. To identify potential human rights risks, the impact assessment included in-person interviews with non-Japanese workers, which were conducted by representatives of a third-party organization with expertise in human rights. As a result, the third-party organization reported that, although some improvements are needed, there are no major issues that could lead to human rights violations. We were also able to confirm that the surveyed companies are taking various measures to ensure that the human rights of non-Japanese technical interns are not negatively affected. DENSO will share the impact assessment with other domestic Group companies and suppliers as an example of good practice that should be referred to when employing non-Japanese technical interns.

#### Grievance Mechanism

We have established an internal whistleblowing system that can be used by domestic Group companies and suppliers. In the event an issue arises that impacts human rights or contributes to an impact on human rights, this system provides relief to the affected party.

Going forward, in addition to steadily promoting the DENSO Group Human Rights Policy, we will enhance the level of our initiatives toward respecting human rights in such ways as bolstering our human rights due diligence and relief measures.

For details on initiatives related to the DENSO Group Human Rights Policy and our respect for human rights, please visit the website below.  
<https://www.denso.com/global/en/about-us/sustainability/society/humanrights/>



### Supply Chain Management

As a global company operating in 35 countries and regions, DENSO aims to optimize the procurement of components, raw materials, and equipment. Our annual procurement accounts for approximately ¥2.7 trillion and utilizes approximately 7,360 suppliers, with approximately 80% of procurement reliant upon local suppliers.

In conformity with its basic policy of ensuring open and fair business practices and responsible procurement activities, the Group promotes sustainable business activities together with its suppliers around the world so that the entire Group and all of the companies in its supply chain fulfill their social responsibilities and continue to advance in unison.

#### Promotion of Sustainable Business Activities Based on the Supplier Sustainability Guidelines

DENSO asks all suppliers to endorse the DENSO Group Sustainability Policy and to conclude a basic business contract at the time of new transactions that requires fulfillment of such social responsibilities as compliance, human rights protection, environmental conservation, and workplace safety. We also request that suppliers clarify their sustainability policy or assign a sustainability manager.

In addition, we have established Supplier Sustainability Guidelines, which set forth the behavior expected of suppliers in more concrete terms. We share these guidelines with all suppliers and ask them to advance activities accordingly. Also, we ask our major suppliers to periodically conduct self-checks using a self-evaluation form. When necessary, DENSO managers visit suppliers, conduct inspections and dialogues, and then seek improvements.

In fiscal 2023, the results of self-evaluations were as shown in the table below.

Results	Percentage	Details and Activities
No concerns	95%	
Concerns	5%	<b>Main concerns</b> Policy not passed on to their own suppliers (DENSO's Tier 2 suppliers) <b>Actions</b> Sent letter requesting improvement with respect to concerns, held dialogues with major suppliers, and provided support for policy formulation as necessary

#### Initiatives for Responsible Procurement of Resources and Raw Materials

With the globalization of businesses, supply chains are becoming increasingly global and diversified. In certain regions of the world, however, workers' rights are not taken into consideration. In particular, mineral mines involve a great deal of dangerous work. At such mines, cash outflows to armed groups and such human rights issues as child and forced labor have been reported. For this reason, responsible procurement of mineral resources and raw materials is an important task in supply chains.

Of particular concern in this regard are conflict minerals from the Democratic Republic of the Congo and surrounding countries. With this in mind, we have formulated a policy on conflict minerals, which we share with our suppliers. Also, we conduct an annual survey on conflict minerals with the cooperation of suppliers. In fiscal 2023, we received responses from all of the approximately 5,000 suppliers surveyed, and no instances of conflict mineral use were found. As the popularization of electric vehicles transforms the market, we will periodically review the minerals subject to risk and consider methods of responding to emerging risks.

DENSO will continue working with suppliers to avoid the use of minerals of concern throughout its supply chain.

#### Green Procurement and the Promotion of Carbon Neutrality in the Supply Chain

Eco Vision 2025 sets out the DENSO Group's environmental management policy. In accordance with this policy, we have formulated the Green Procurement Guidelines, which stipulate the management and reduction of environmentally hazardous substances (substances of concern) and the establishment of environmental management systems, and we ask suppliers to conduct procurement and management in strict compliance with these guidelines.

Particularly with regard to climate change, DENSO must promote activities not only in-house but among suppliers and throughout its supply chain. We have shared with suppliers our goal of reducing CO<sub>2</sub> emissions from purchased products and services by 2.5% per year. To this end, we are advancing initiatives in partnership with suppliers.

To achieve the aforementioned reduction target, we are analyzing the CO<sub>2</sub> emissions and issues of suppliers and providing them with support measures tailored to their needs. Specifically, our multifaceted support includes applying our energy-saving expertise, reducing CO<sub>2</sub> emissions in logistics, switching to low-carbon materials, and sharing methods of renewable energy procurement. In these ways, we aim to achieve carbon neutrality throughout the supply chain.

In addition, we ensure that activities closely align with the situations and plans of suppliers by organizing carbon neutrality briefings and providing other opportunities for communication with suppliers as appropriate.

For details on the DENSO Group's procurement policies, please visit the website below.  
<https://www.denso.com/global/en/about-us/sustainability/society/procurement-policy/>



For details on the DENSO Group's initiatives focused on promoting sustainability throughout the supply chain, please visit the website below.  
<https://www.denso.com/global/en/about-us/sustainability/society/supply-chain/>

