

***DENSO***  
Crafting the Core

## Integrated Report 2022

For the year ended March 31, 2022



# 社 是

- 一、信用を尊び責任を重んず
- 一、虚飾を排し和衷協力誠実事に當る
- 一、研究と創造に努め常に時流に先んず
- 一、最善の品質とサービスを以て社会に奉仕す

The DENSO Creed

Be trustworthy and responsible.

Cherish modesty, sincerity, and cooperation.

Be pioneering, innovative, and creative.

Provide quality products and services.

## DENSO Philosophy

Contributing to a better world  
by creating value together with  
a vision for the future

## DENSO Spirit

A spirit of foresight, credibility and collaboration

The DENSO Spirit expresses values and beliefs shared by our employees around the world that have driven us to contribute to the automotive industry and society as a whole since our establishment in 1949.

### Foresight

Providing surprises and impressions in a way that only DENSO can

Vision

Creativity

Challenge

### Credibility

Providing quality and reliability beyond customer expectations

Quality First

On-site Verification

*Kaizen,*  
Continuous Improvement

### Collaboration

Achieving the highest results by working as a team

Communication

Teamwork

Human Development



## Publication of DENSO Integrated Report 2022



**Yasushi Matsui**  
Chief Financial Officer  
Member of the Board of Directors, Senior Executive Officer

DENSO publishes an integrated report every year in order to foster a deeper understanding among investors and all of its stakeholders regarding the Company's initiatives toward sustainable corporate value enhancement.

*DENSO Integrated Report 2022* includes specific information on the strategies and initiatives DENSO is pursuing toward "green" and "peace of mind" with the aim of realizing its Long-term Policy for 2030 as well as the details of the new Mid-term Policy for 2025, formulated in fiscal 2023, and efforts to strengthen its non-financial capital, a topic that has garnered a great deal of attention in recent years. In addition, the report introduces the Company's financial strategies for continuing to create corporate value even under an uncertain business environment.

Going forward, DENSO will continue its efforts to disclose accurate information to its stakeholders in a timely manner and engage in dialogue with them. Lastly, I would like to assure the readers that the creation process for this report was done in an appropriate fashion.

### Editorial Policy

In addition to providing financial information, such as results and sales overviews as well as management strategy, *DENSO Integrated Report 2022* is edited as an integrated report that reports, in an easily understood manner, on what value DENSO is providing society and on the process of improving that corporate value. This was achieved by introducing, in an integrated manner, information of a non-financial nature on intangible assets, including on the environment, society and governance (ESG), that are seen as the foundation underpinning growth.

DENSO creates long-term corporate value for all of its stakeholders, including shareholders and other investors, and would appreciate their understanding for the efforts the Company is making in aiming to realize a sustainable society.

In compiling this report, references have been made to the Integrated Reporting Framework that is proposed by the International Financial Reporting Standards (IFRS) Foundation, as well as the Guidance for Integrated Corporate Disclosure and Company-Investor Dialogue for Collaborative Value Creation, formulated by the Ministry of Economy, Trade and Industry. In addition, with regard to social reporting and the environment, please refer to the "Sustainability" section of the Company's website.



### Scope of Report

**Target Organization** DENSO CORPORATION and the DENSO Group (In this report, DENSO CORPORATION refers to DENSO on a non-consolidated basis.)

**Reporting Period** This report covers the activities of the DENSO Group during fiscal 2022 (April 1, 2021 to March 31, 2022). Certain parts of this report include content on the Group's activities from April 2022 onward.

**Target Audience** All stakeholders involved with the DENSO Group

### Cautionary Note: Forward-Looking Statements

Of the content published in this report, what is not historical fact comprises future predictions based on expectations or on plans for the future. As they include contributory factors, such as risks and uncertain elements, the possibility exists that actual achievements and results may differ materially from this report.

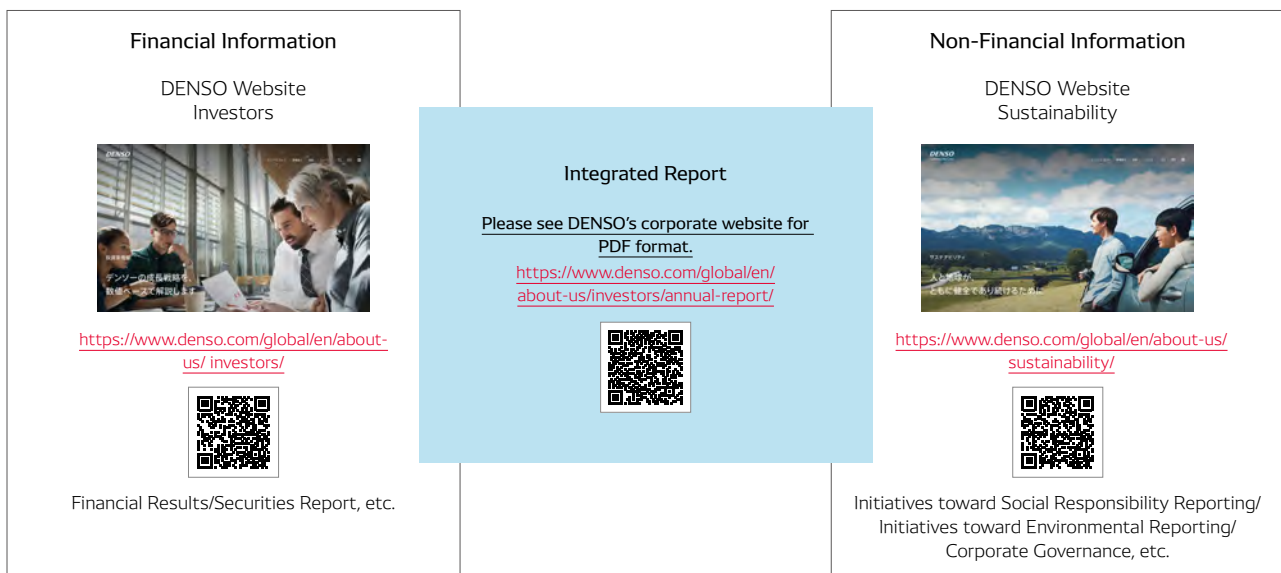
### Terminology Used in DENSO Integrated Report 2022 (Abbreviations for Various Types of Electrified Vehicles)

- BEV: Battery electric vehicle
- HEV: Hybrid electric vehicle
- PHEV: Plug-in hybrid electric vehicle
- FCEV: Fuel-cell electric vehicle

### About the Cover of DENSO Integrated Report 2022

The cover of this report depicts the sense of team spirit we foster among our employees on the front lines of manufacturing and their growing ambition to achieve our various targets through their collective wisdom and strengths. It also expresses DENSO Culture, which involves efforts toward *Monozukuri* (manufacturing) through the use of D-cross, our original design element, and the provision of value to society.

### Positioning of Integrated Report



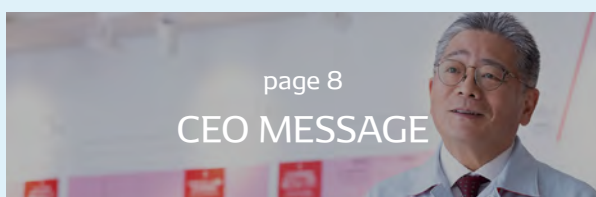


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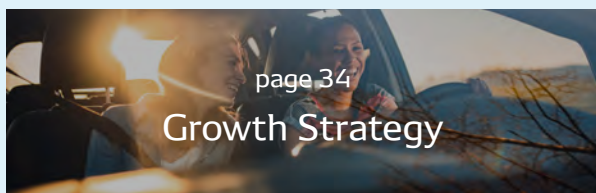
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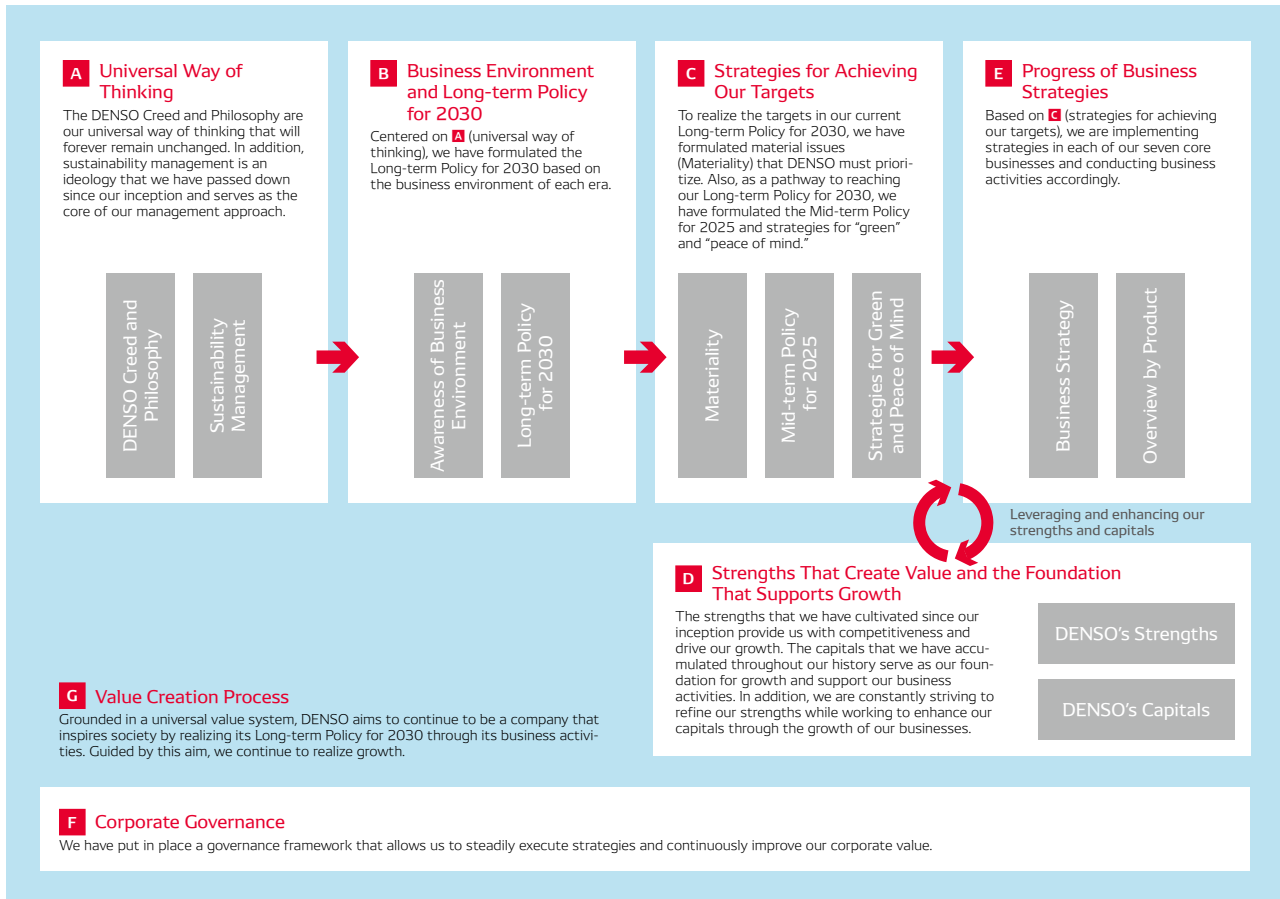
DENSO has pledged its support for the Task Force on Climate-related Financial Disclosures (TCFD). For *DENSO Integrated Report 2022*, we referenced the climate-related disclosure items recommended by the TCFD. The table below shows the correspondence between the TCFD recommended disclosure items within this report and the ones on our corporate website. Furthermore, this integrated report includes sections that disclose opportunities and risks based on scenario analysis and summarize DENSO's initiatives in accordance with the TCFD recommendations. Please see pages 73 to 76 for details.

	DENSO Integrated Report 2022	DENSO's Corporate Website
Governance	a) Describe the Board's oversight of climate-related risks and opportunities P75: Efforts to Maximize the Value of "Green">Governance P100: Corporate Governance>Corporate Governance System	Who we are>Sustainability>Sustainability Management>Promotion Structure: <a href="https://www.denso.com/global/en/about-us/sustainability/management/">https://www.denso.com/global/en/about-us/sustainability/management/</a> Who we are>Sustainability>Commitment to the Environment>EcoVision>Environmental Management (Eco-Management)>Promotion Structure: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/eco-management/">https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/eco-management/</a> Who we are>Sustainability>Governance>Corporate Governance>Corporate Governance System and Principal Organizations: <a href="https://www.denso.com/global/en/about-us/sustainability/governance/management/">https://www.denso.com/global/en/about-us/sustainability/governance/management/</a>
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Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term P38-39: Awareness of Business Environment P40-41: Materiality P73-74: Efforts to Maximize the Value of "Green">Scenario Analysis of Business Risks and Opportunities	Who we are>Sustainability>Commitment to the Environment>EcoVision: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/">https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/</a> Who we are>Sustainability>Commitment to the Environment>Environmental Action Plan: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/action-plan/">https://www.denso.com/global/en/about-us/sustainability/environment/action-plan/</a> Who we are>Sustainability>Sustainability Management>Materiality: <a href="https://www.denso.com/global/en/about-us/sustainability/management/">https://www.denso.com/global/en/about-us/sustainability/management/</a>
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning P36-37: Vision and Road Map for 2030 P38-39: Awareness of Business Environment P40-41: Materiality P42-47: Results of the Long-term Plan for 2025 and Mid-term Policy for 2021, Results of DENSO Revolution Plan "Reborn21" P48-49: Mid-term Policy for 2025 P50, 52-53, 54: Strategies for Green and Peace of Mind P58-64: Message from the Chief Financial Officer P73-75: Efforts to Maximize the Value of "Green">Scenario Analysis of Business Risks and Opportunities, Impact on Management Strategy, Impact on Financial Planning	Who we are>Sustainability>Commitment to the Environment>EcoVision: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/">https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/</a> Who we are>Sustainability>Commitment to the Environment>Environmental Action Plan: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/action-plan/">https://www.denso.com/global/en/about-us/sustainability/environment/action-plan/</a>
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario P73-75: Efforts to Maximize the Value of "Green">Scenario Analysis of Business Risks and Opportunities, Impact on Management Strategy, Impact on Financial Planning	
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks P40-41: Materiality P75: Efforts to Maximize the Value of "Green">Risk Management P114-115: Risk Management	Who we are>Sustainability>Sustainability Management>Materiality: <a href="https://www.denso.com/global/en/about-us/sustainability/management/">https://www.denso.com/global/en/about-us/sustainability/management/</a> Who we are>Sustainability>Commitment to the Environment>Environmental Management (Eco-Management)>Promoting Consolidated Environmental Management, Environmental Risk Management: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/eco-management/">https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/eco-management/</a> Who we are>Sustainability>Governance>Risk Management>Ascertaining Risks and Clarifying Response: <a href="https://www.denso.com/global/en/about-us/sustainability/governance/risk/">https://www.denso.com/global/en/about-us/sustainability/governance/risk/</a>
	b) Describe the organization's processes for managing climate-related risks P40-41: Materiality P75: Efforts to Maximize the Value of "Green">Risk Management P114-115: Risk Management	Who we are>Sustainability>Sustainability Management>Materiality: <a href="https://www.denso.com/global/en/about-us/sustainability/management/">https://www.denso.com/global/en/about-us/sustainability/management/</a> Who we are>Sustainability>Commitment to the Environment>Environmental Management (Eco-Management)>Promoting Consolidated Environmental Management, Environmental Risk Management: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/eco-management/">https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/eco-management/</a> Who we are>Sustainability>Governance>Risk Management>Ascertaining Risks and Clarifying Response: <a href="https://www.denso.com/global/en/about-us/sustainability/governance/risk/">https://www.denso.com/global/en/about-us/sustainability/governance/risk/</a>
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management P75: Efforts to Maximize the Value of "Green">Risk Management P114-115: Risk Management	Who we are>Sustainability>Governance>Risk Management: <a href="https://www.denso.com/global/en/about-us/sustainability/governance/risk/">https://www.denso.com/global/en/about-us/sustainability/governance/risk/</a>
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process P41: Materiality>Materiality KPIs P50: Strategies for Green and Peace of Mind P76: Efforts to Maximize the Value of "Green">Indicators and Targets	Who we are>Sustainability>Commitment to the Environment>EcoVision: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/">https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/</a>
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks P119: Non-Financial Highlights>CO <sub>2</sub> Emissions (Global, Scope 1 + Scope 2 Emissions) P120-121: 10-Year Data>Non-Financial Data>CO <sub>2</sub> emissions (global)	Who we are>Sustainability>Commitment to the Environment>Data compilation (Environmental report): <a href="https://www.denso.com/global/en/about-us/sustainability/library/environment-data/">https://www.denso.com/global/en/about-us/sustainability/library/environment-data/</a>
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets P41: Materiality>Materiality KPIs P50: Strategies for Green and Peace of Mind P76: Efforts to Maximize the Value of "Green">Indicators and Targets P120-121: 10-Year Data>Non-Financial Data>CO <sub>2</sub> emissions (global)	Who we are>Sustainability>Commitment to the Environment>Environmental Action Plan>Positioning of the Seventh Phase of the Environmental Action Plan: <a href="https://www.denso.com/global/en/about-us/sustainability/environment/action-plan/">https://www.denso.com/global/en/about-us/sustainability/environment/action-plan/</a> Who we are>Sustainability>Commitment to the Environment>Data compilation (Environmental report) >Action 2: <a href="https://www.denso.com/global/en/about-us/sustainability/library/environment-data/">https://www.denso.com/global/en/about-us/sustainability/library/environment-data/</a>

## Overall Layout of DENSO Integrated Report 2022

This integrated report is edited based on the layout explained in the chart below.  
This layout is used to better explain DENSO's value creation story.

The aim of *DENSO Integrated Report 2022* is to have the reader gain a deep understanding of DENSO's value creation process while promoting an opportunity for dialogue. Throughout the entirety of this booklet, we have created a story line that comprehensively communicates our value creation process while encompassing crucial elements that help the reader understand this process (management philosophy, business model, strategy, governance, etc.). The chart below shows the logical layout of these crucial elements based on the story line we have created. Additionally, we have created an index of keywords affiliated with each element so that readers can easily access the information they wish to know.

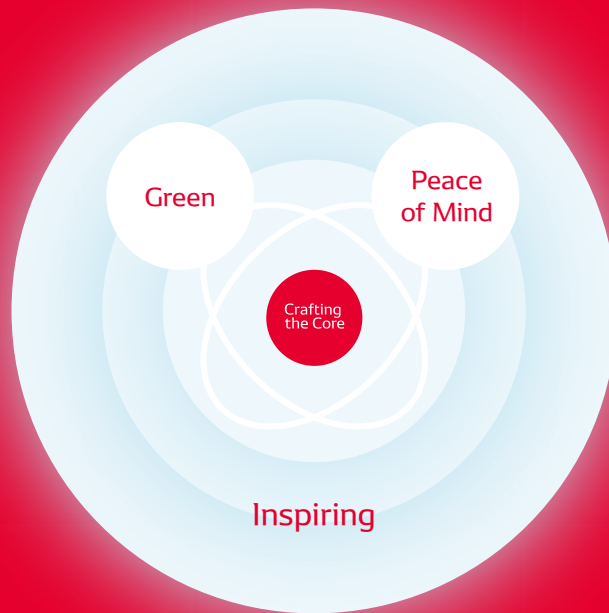


<p><b>A</b> DENSO Creed ..... P.15 DENSO Philosophy ..... P.1 Sustainability Management ..... P.14–33, 35–55</p> <p><b>B</b> CEO Approach and Vision Based on the Business Environment ..... P.8–13 Awareness of the Business Environment (PEST Analysis) ..... P.38–39 Risks and Opportunities and Response Measures ..... P.38–39 Major Issues for DENSO ..... P.39 Long-term Policy for 2030 ..... P.36–37 Identification of Climate-related Opportunities and Risks and Response Measures ..... P.73–74</p> <p><b>C</b> Vision and Road Map for 2030 ..... P.36–37 Growth Indicators to Realize the Long-term Policy for 2030 and Social Issues We Aim to Resolve ..... P.37 ① Materiality ..... P.40–41 Related SDGs ..... P.37 ② Mid-term Policy for 2025 ..... P.48–49 ③ Strategies for "Green" and "Peace of Mind" ..... P.50–55 Financial Strategies ..... P.57–64</p>	<p><b>D</b> DENSO's Strengths ..... P.22–25 DENSO's Capitals ..... P.26–27, 57–79</p> <p><b>E</b> DENSO's Businesses (Overview) ..... P.28–29 Business Portfolio and Value Creation ..... P.81 Strategies and Outlook for Each Business ..... P.82–97 Facts &amp; Figures ..... P.118–119</p> <p><b>F</b> Efforts to Improve Corporate Governance ..... P.99 Corporate Governance System ..... P.100–102 Compensation of Members of the Board and Audit &amp; Supervisory Board Members ..... P.104–106 Strategic Shareholdings ..... P.107 Dialogue with the Outside Board Members ..... P.108–110 Message from the New Outside Board Member ..... P.111 Members of the Board and Audit &amp; Supervisory Board Members ..... P.112–113 Risk Management ..... P.114–115 Compliance ..... P.116</p> <p><b>G</b> DENSO's Value Creation Process ..... P.30–31 Crucial Elements of the Value Creation Process ..... P.14–29</p>
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## PROLOGUE

# Bringing hope for the future for our planet, society, and all people



This world is full of achievements that haven't yet happened.

We haven't built a society where we can all move from place to place with no risks.

We haven't found a way to manufacture with zero CO<sub>2</sub> emissions.

We haven't found a way to feed the entire world,  
or build a robot that can work on the same level as a human.

When things we haven't achieved turn into things we have.

These are the moments the world takes a step forward.

When the things we've achieved become the everyday.

That's where a better world awaits us.

Our goal is to work with our partners so we can make new things happen together.

Because our world is full of achievements that haven't yet happened.

And that's why we're here.

Here at DENSO, we are professionals who make things happen.

(Excerpt from DENSO Brand Purpose)







# 社 是

- 一、信用を尊び責任を重んず
- 一、虚飾を排し和衷協力誠実事に當る
- 一、研究と創造に努め常に時流に先んず
- 一、最善の品質とサービスを以て社会に奉仕す



Koji Arima  
President & CEO,  
Representative Member  
of the Board



## CEO MESSAGE

To Our Stakeholders

To realize a future brimming with smiles, all DENSO employees will work with tremendous passion to embody DENSO Culture and create new value that is uniquely DENSO. By doing so, we will bring happiness to people and society at large.

### Expressing My Gratitude to All Those Who Support Us

In fiscal 2022, although there was a gradual recovery in economic activities amid the entrenchment of “with COVID-19” lifestyles, there were continued semiconductor shortages and logistics disruptions, which led to a decline in the number of automobiles produced. These factors, among others, made fiscal 2022 a year in which efforts to respond to change were needed more than ever before. The reasons why we were able to continue to supply our customers under these circumstances were undoubtedly the concerted efforts of car manufacturers to make automobiles one after the other and the support of our suppliers around the world, who continued to deliver components to us throughout the year. If even one component cannot be made or delivered, then it is impossible for the manufacturer to make an automobile. Due to the fact that DENSO operates business on a global basis, we have a major responsibility of supply, as even one unmade or undelivered component can have a ripple effect across the globe. I therefore would like to say a heartfelt “thank you” to our suppliers and business partners around the world who provide us with the necessary support to keep our global operations afloat. I am also extremely thankful of the fact that we have been able to continue our *Monozukuri* (manufacturing) activities on a daily basis while receiving this support.

### Striving to Realize a Company More Resilient to Change

At the moment, we are dealing with various uncontrollable circumstances, including the soaring cost of energy and the rapidly depreciating yen. As a result, the outlook for the future is becoming increasingly more uncertain. However, this uncertainty is not something that started just recently. In addition to geopolitical risks and natural disasters, risks such as telecommunication failures and cyber-attacks have been becoming even more diverse and complex in recent years, and we now find ourselves in a situation where we are constantly exposed to danger. In other words, we now live in a world where dramatic change has become commonplace.

In such a world, it truly becomes a matter of how far we can extend our range of assumptions on a daily basis as well as how quickly we can get an uncontrollable circumstance under control. To that end, DENSO has been taking action to reinforce its crisis management structure, including the utilization of data to ascertain problems and the implementation of first-response training in anticipation of an emergency. Additionally, in 2022, we launched the Response Capabilities Enhancement Project through which we have been undertaking efforts to strengthen risk management on a Companywide basis, with a particular focus on such divisions as sales, production management, and procurement. Our overseas bases have also been participating in

## CEO MESSAGE

this project, helping us prepare a structure for responding to risk on a global scale. Going forward, we will work in close collaboration with our partners across the supply chain to further enhance our ability to respond to change so that we can flexibly absorb the impact of any external disruptions on management and realize an instantaneous recovery.

### Restoring DENSO Culture

Since 2019, we have been working to rebuild our management foundation, and this is an activity we will continue to undertake without ever being satisfied with the status quo. In light of the occurrence of a quality-related issue and the ongoing COVID-19 pandemic, we have been striving to rebuild our foundation for quality, strengthen our financial position, and rethink the way in which we approach our work. The results of these efforts have been steadily manifesting in the changing awareness and behavior of each employee and in our business performance as well, including in terms of profits and our break-even point. Furthermore, guided by the principles of green and peace of mind, we have once again clarified our mission and role. This, together with the honest approach of “cherish modesty, sincerity, and cooperation” adopted under the DENSO Creed, has started to bring about change in our organizational structure and corporate culture.

For that reason, it is now more important than ever to continue efforts to reestablish an unshakable management foundation with a renewed sense of commitment. While working to entrench DENSO culture across the organization and in the actions of all employees, we will seek to become a more flexible and robust company that is reinforced all the way down to its very core.

### Understanding How Culture Strengthens a Company

Corporate culture provides the driving force for a company and serves as the source of its competitiveness. I gained a sense of the importance of corporate culture nearly 20 years ago, when I served as president at one of our overseas locations. At the time, this company was facing extremely difficult operating conditions due to continued deficits, and I remember how I initially could not get my head around what we needed to do in order to change course. Despite my uncertainties, I strove to understand the actual situation of the company in great detail and shed light on the management issues it

faced through repeated dialogue with the employees. While doing so, I realized that the employees still had a look of determination in their eyes and that we could certainly overcome these hardships if I could just do something to channel this determination to something greater. I therefore started to undertake the challenge of creating a DENSO Culture that accommodates the local characteristics.

While pursuing this challenge, I placed importance not on insisting to do things the way we do in Japan but rather on incorporating local elements into DENSO Culture that encapsulated the will of the local employees, while making sure that the most important elements of DENSO Culture were kept intact. The starting point for these efforts was to restore pride among employees in working for the company and having them believe in themselves again. From there, I began to conduct employee-centric activities and worked to enhance a sense of belonging to the company while fostering a corporate culture that values the participation of all employees. I understand that this sounds like an extremely matter-of-fact approach, but the fact that the company had lost track of such fundamentals is what caused it to fall on such difficult times. I believe this demonstrates the underlying importance of a strong corporate culture.

In addition, I valued the idea that, no matter how difficult a situation may be, we must always focus on a brighter future and communicate our dreams with one another. In conjunction with the diligent activities we pursued each day, we also envisioned future growth strategies and worked together on a Companywide basis to make those strategies a reality. As a result of these endeavors, we were able to overcome hardships and return the company into the black. Of course, a major accomplishment of these efforts was improving management indicators such as profits and quality. For me, however, I rejoiced the most in the fact that the company became a brighter place to work, shifting to a positive corporate culture that brought back the passions and smiles of the employees and their families.

Although there were many difficulties in pursuing these kinds of dramatic reforms, I still feel a deep personal connection to all those I worked with at that time to prevail over the tremendous hardships that the company faced. I feel this is because of the unique corporate culture and value systems that bound us together and were created from the passion of employees, who were able to openly communicate with each other about what we should value as employees of DENSO. I also feel this experience showcases how we can build confidence by



working together to accomplish tasks that we have not been able to do for many years or tasks that are seemingly impossible, but we never give up until results are achieved. I believe this confidence remains in the hearts of those employees as a part of their unique culture and strengths.

### Once Again Placing Emphasis on DENSO Culture

Looking back on the numerous stories that have made DENSO the company it is today, I believe that DENSO Culture can be defined as the ability to act and the ability to turn ideas into reality. It can also be defined as the unyielding determination to do whatever it takes to overcome a challenge. Lastly, I believe DENSO Culture can be described as the consideration and compassion we have for each other, our business partners, and greater society.

Our ability to act and our unyielding determination have been tested countless times through the numerous supply crises we have recently faced under the COVID-19 pandemic. For example, when our suppliers faced issues with supply, our employees rushed to the front lines to take action with a preparedness that DENSO will do whatever it takes to help remedy the situation. They did this not based on instruction from above or a request from our customers, but rather as a fundamental action

on their own initiative. I believe this perfectly encapsulates DENSO Culture. As dramatic changes and crises have been ongoing over the past several years, we have once again been made aware of the importance of DENSO's unique determination and ability to see actions through to their completion. At the same time, recent circumstances have made our employees aware of the many abilities that they can demonstrate from their individual position.

Meanwhile, consideration and compassion are something that need to be once again brought to the forefront due to the significant social changes that have occurred in the wake of the COVID-19 pandemic and the new styles of communication and interaction between people that have become entrenched as a result. The changes that occurred over the past several years are not something that can be easily reversed. And this is precisely why I feel we must pay attention to the aspects that are being lost in the shadows of greater convenience and efficiency. For example, when employees come to the office, they are able to speak with each other face to face, making it easy to notice the subtleties of people's expressions and feelings. The reality of the situation is that these subtleties are more difficult to observe by way of a screen when employees are teleworking. In addition, even when employees come to the office, it has now become commonplace for them to eat in silence in the employee cafeteria with partitions between them. In the break



## CEO MESSAGE

rooms of our plants as well, we no longer see employees chatting and laughing with each other like they did before as we must maintain social distance.

In these kinds of new work environments, we tend not to notice slight changes among our coworkers and are more likely to turn a blind eye to aspects that seem insignificant. As a result, there is a concern that, before we know it, we will become essentially indifferent to each other.

A workplace of employees who are indifferent to each other is something I absolutely do not wish to see. Not matter how accurately and swiftly we are able to pursue our work, an apathetic organization not only violates DENSO Culture, it also loses what it means to work at DENSO. I certainly do not want to make DENSO such a company. What is needed to preserve DENSO Culture, maintain a sound workplace culture, and make DENSO a company brimming with vitality is not some kind of special policy or groundbreaking initiative; it is simply the consideration that our employees have toward one another. Such consideration is something everyone can have, whether it be through greetings, small talk, or just checking in with someone to see how they are doing. However, this consideration has been something we have tended to neglect recently, as it has become slightly inconvenient amid these new workstyles. Consideration of our fellow coworkers and sensitivity to their feelings is an indispensable element of an invigorated organization, and thus something we must maintain no matter how much our workstyle evolves or how diverse our team becomes. While flexibly responding to the changes brought about by the COVID-19 pandemic, we aim to continue to be a company where employees value one another and take time out of their day to engage in the little actions that create a warm and welcoming environment.

### **Respecting Actions That Only People Can Do as Part of DENSO Culture**

In addition to changes in the way people interact, the COVID-19 pandemic has made us once again realize the tremendous potential of digital technologies. Although such potential has been discussed for a very long time, by actually having the experience of dealing with such innovative technology on a daily basis, such as having a large number of people teleworking or participating in an online meeting, I have truly gained a sense of the tremendous role that machinery can play and of the major advantages that technology has given us.

On the other hand, these recent developments have also made me consider tasks that people are supposed to do and tasks that only people can do. Although machines can process and analyze massive amounts of information and data, what could and should be done with such information and data depends on the ambitions of people. More so than reaching a reasonable conclusion derived from logical and scientific thinking, I believe that establishing ambitious targets based on one's own thoughts and desires brings more excitement to people and better compels them to take on challenges. Only people can form ideals, envision the future, and talk about their dreams in a manner that can excite those around them. Furthermore, being able to realize such dreams depends on the level of people's passions and the organization to which they belong.

It goes without saying, but when a machine processes a task, it does so without passion or a desire to do so on behalf of someone else. People are passionate about the significance of their work and pursue tasks with various people in mind and by drawing on the expectations of those around them as a source of passion and energy. Therefore, people are able to feel that they are being supported by others during times of difficulty, and at times when a feeling of support can bring out unexpected strength.

I have consistently maintained the desire of turning DENSO into a company with high levels of passion. Unlike machines, people become highly motivated by their social mission and passionately speak about their dreams with each other. I want DENSO to be an organization that has that motivation and desire to put forth its best efforts for its members and for society as a whole. I believe we have in place the foundation and are presented with sufficient opportunities to become such an organization.

### **Embodying DENSO Culture, Meeting Shareholder Expectations, and Offering Value to Society**

I believe that DENSO is starting to play a role in society that is greater than we have previously ever imagined. As the issues facing the entire automotive industry become more complex and diverse, and as our business domains expand into areas such as carbon neutrality, semiconductors, and agriculture, the way DENSO is viewed by society is steadily changing. While this places a certain level of pressure on us, it also provides us with a significant opportunity to offer more value to society. We

therefore aim to turn these expectations and responsibilities into a major strength that will drive us toward the realization of our dreams.

DENSO's dream is to bring happiness to people and society at large and deliver a future for the next generation that is brimming with smiles. We currently find ourselves in a period of uncertainty and instability, and it can be said that this is a period when there is truly no right answer. It is in precisely such a time when we need unwavering conviction and tremendous passion in order to accomplish our greatest dreams. Our conviction is encapsulated in the DENSO Creed as "provide quality products and services." As we enter into the period of our second founding, we must return to the DENSO Creed, which represents the spirit of our founding, and reexamine our origins as a company.

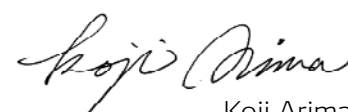
The biggest source of our passion is our employees who have the strong will and desire to offer value to society. I believe this source of passion is amplified through the embodiment of DENSO Culture, which entails acting on

your own initiative to see actions through to their completion, no matter how many times you fail.

With the tremendous passion of our 170,000 DENSO employees working as one invigorated team, we are able to create value that is uniquely DENSO. We will continue to pursue such value with unyielding determination for the sake of people and society as a whole.

I would like to ask our shareholders and other investors for their continued support as we work to achieve our dreams going forward.

September 2022



Koji Arima

President & CEO,  
Representative Member of the Board







Past,

Present,

DENSO's Value Creation Story

and Future /

Continuing to Create Value for the  
Mobility Society



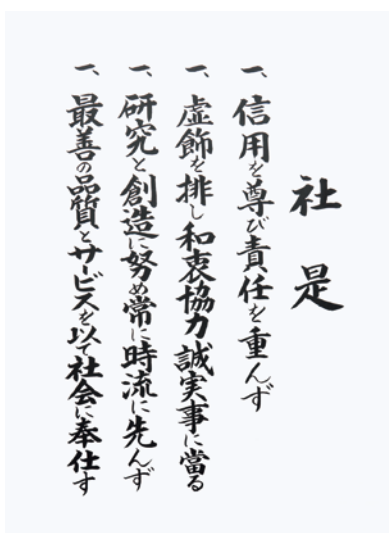


# / Identity /

## DENSO Culture Inherited from the DENSO Creed

In 1956, seven years after the Company's founding, we formulated the DENSO Creed to express in words the mentality of all DENSO employees—which we have had even before splitting from Toyota Motor Co., Ltd.—while taking the next step toward new progress based on a clear self-awareness.

Without changing the values encapsulated in the DENSO Creed, we formulated the DENSO Philosophy in 1994 to reflect the social changes occurring at the time. In addition, to share our value system on a global basis, we established the DENSO Spirit in 2004. The four ideals of the DENSO Creed, which have served as the source of the Company's progress, have been gradually passed down through the years and are still inherited today by our approximately 170,000 employees across the globe.



### Four Ideals of the DENSO Creed

#### Be trustworthy and responsible.

The trust that our predecessors worked earnestly to build over the years underpins the DENSO of today. We will therefore maintain this trust and seek to build it up further so that we can pass it on to the next generation. By doing so, we will meet the expectations of society and fulfill our responsibility to ensure DENSO's future.

#### Cherish modesty, sincerity, and cooperation.

We work to refine not our appearance or job title but the essence of who we are as a part of DENSO, and we work in collaboration to perform our duties with sincerity. The sincere and cooperative relationships we have with each other as employees will bring forth inspiration and help us build long-lasting relationships with our customers and business partners.

#### Be pioneering, innovative, and creative.

By consistently leading the times with our research and creativity and continuing to refine our technologies and know-how, we will swiftly create new value that truly benefits society, thereby paving the way for the future.

#### Provide quality products and services.

We will earnestly approach each issue facing this ever-changing society and continue to bring hope and happiness to all people while aiming to provide our customers and society with products and services of the very best quality.

### Establishment of the DENSO Heritage Center

In December 2021, we established the "Heritage Center" with the aim of enabling all employees to return to DENSO's origins, which are represented by the DENSO Creed and the principles of quality and safety, and to provide them with an opportunity to consider what they themselves want to pass on to the next generation of DENSO. At the DENSO Heritage Center, we have established areas that introduce events that happened at the time of the Company's founding, which represent the starting point of DENSO. We also have areas where visitors can reflect on DENSO's history of offering quality and peace of mind. The Heritage Center is visited by a large number of employees every day.



## Hardships and Challenges at the Time of Our Founding

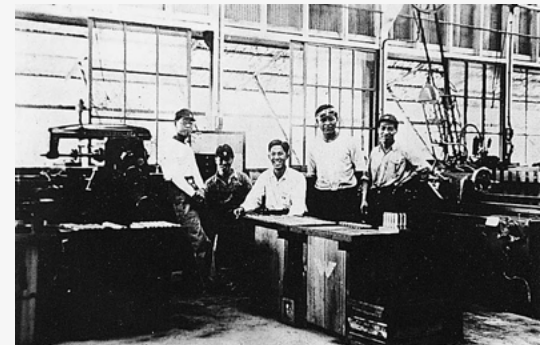
DENSO overcame the numerous hardships it faced at the time of its founding and continued to develop since with the desire to realize an even better society, which is encapsulated in the DENSO Creed. The desire serves as the starting point of DENSO and remains with the Company even to this day. Recently, as DENSO enters into the period of its second founding, there is a need to boldly take on unprecedented challenges, such as promoting initiatives toward CASE and realizing carbon neutrality. By once again reflecting on the desire embodied in the DENSO Creed and returning to our starting point as a company, we will steadily move forward toward our aim of bringing happiness to people and society as a whole.

1935

### Taking on the Challenge of Producing Electrical Equipment In-House

During an extremely difficult period in which we did not possess the proper tools and equipment, our determination alone is what allowed us to achieve success.

In 1933, an automobile department was established within Toyoda Automatic Loom Works, Ltd. (currently Toyota Industries Corporation). In 1935, executive director of Toyoda Automatic Loom Works, Kiichiro Toyoda, instructed Ryuichi Suzuki (who would later become a member of the Board at DENSO) to take on the challenge of producing electrical equipment in-house. However, developing such equipment internally became an extremely difficult task. At the time, the quality of electrical equipment was unstable, and there was a growing opinion that promoting the in-house production of such equipment was not a task the company should undertake. As a result, Mr. Toyoda stated to Mr. Suzuki that this task seemed to be far harder than he imagined, and he asked Mr. Suzuki whether they should quit at that juncture. Mr. Suzuki pleaded to Mr. Toyoda to allow him to continue his efforts to realize in-house production for one more month. Sometime after doing so, the enthusiasm and the persistence of Mr. Suzuki and the young engineers on his team led to the official adoption of electrical equipment in Toyota vehicles.



**Team in Charge of Electrical Equipment Development**

At the time, a team of approximately 30 engineers and technicians devoted themselves to the in-house development of electrical equipment, often going without sleeping and eating.

### Initiatives after Splitting Off and Being Established as a Separate Entity

#### Development of Electric Vehicles

In 1950, we commenced production of a battery electric vehicle (BEV) that could travel up to 195 km with one charge.

#### Development of Electric Washing Machine

In 1950, we launched a drum-type electric washing machine, which at one point was the best-selling washing machine in Japan, selling over 1,000 units per month.

#### Modernization of Facilities

In 1952, we decided to purchase new facilities over a four-month period for a total of ¥160.0 million (net sales at the time were ¥1,148 million).



1949

### The Birth of NIPPONDENSO

Even without a clear path forward, we were resolved to make one on our own and move forward on it no matter what the outcome.

In 1949, with the Japanese economy in an extremely difficult state due to the promotion of the Dodge Line by the General Headquarters of the Supreme Commander for the Allied Powers, the electrical equipment department split off from Toyota Motor Co., Ltd., and was established as NIPPONDENSO CO., LTD. The company's first president, Torao Hayashi, aimed to rapidly expand the company not just in Japan but also overseas. For that reason, he chose the name NIPPONDENSO ("Nippon" meaning Japan), rather than KARIYADENSO, AICHIDENSO, or TOKAIDENSO, which are names of the local area where the company was founded, to display his conviction toward becoming self-reliant and expanding the company. Amid a recession and a lack of materials and equipment, NIPPONDENSO got off to a rough start. However, a strong bond was formed among the company's employees.

1950

## Moving Forward with a Strong Labor–Management Relationship after Settling Labor Disputes

Pursuing the Highest Quality and the Lowest Price through the United Efforts of All Employees to Become No. 1 in the Industry

Chaotic economic conditions continued after NIPPONDENSO split off from Toyota Motor to become its own company, and in 1950, the company declared its intention to rebuild itself. Then company member of the Board Tatsuo Iwatsuki (who would later become president of DENSO) stated that, “we are approaching rough seas as a company, and I would like to see management make a proposal in order to stop this ship from sinking.” A workforce reduction of 473 employees, which was roughly one-third of all employees at the time, was subsequently carried out. In addition, Mr. Iwatsuki also penned a startling article in the company newsletter, titled “Will NIPPONDENSO fail?” in which he stated how it would be difficult to protect the company from failure in the domestic market if dramatic changes were not made. He also communicated to employees that, “to be the No. 1 company in the industry, we have no choice but to compete by offering the highest quality at the lowest price.” After a 29-day labor dispute, labor and management achieved mutual trust, and this trust helped commence efforts to build a management foundation that aimed for the highest quality and the lowest price through the united efforts of all employees.



### Initiatives That Leveraged the Knowledge Gained from Robert Bosch

#### Origins of Hitozukuri

In 1954, we established a technical training center offering a three-year course to people who have graduated from junior high school, thereby fostering the principle of “*Monozukuri is Hitozukuri* (our performance relies on our people).”

#### Establishment of Standards and Regulations

We created the original DENSO Design Standard based on the German “Bosch” standards (a rigorous set of standards that cover everything from production to management).

#### Establishment of a Service Station Network

In 1954, we commenced plans to establish a network of service stations in an effort to enhance quality for end-users in each region across Japan.



1953

## Start of Technical Cooperation with Robert Bosch GmbH

Becoming a Trusted Company That Customers Could Feel Confident in Choosing

After resolving labor disputes and beginning efforts to rebuild, the special demand stemming from the Korean War breathed new life into NIPPONDENSO's management. However, in terms of technology, there was a clear disparity between NIPPONDENSO and companies in Europe and the United States, resulting in an urgent need to achieve international-level technology and quality as quickly as possible. At the time, the German-based Robert Bosch GmbH was roughly 10 times larger than NIPPONDENSO, but through the mediation of Dr. Tokushichi Mishima (inventor of MKM steel), the recommendation of Kazuo Kawamata (the president of Toyo Motors), and the determination and agility of our management, we were able to enter into a technical alliance with Robert Bosch. While learning various aspects from this company, we established a technological, quality, and business foundation that could compete on an international level.

## 1956 Formulation of the DENSO Creed

Of the 1,450 employees of NIPPONDENSO at the time, roughly 40% joined the company after it split off to become its own company. This meant that there were a growing number of employees who did not know about the struggles the company had faced since its founding. To that end, we established the DENSO Creed based on ideas submitted by employees in order to clarify our purpose and our vision for employees.



## Value Creation That Draws on DENSO Culture

The DENSO Creed, formulated after overcoming the hardships and challenges we faced since our founding, and the principles enshrined within it provide the source of our value creation to this day. In this section, we introduce iconic examples that embody the four principles of the DENSO Creed and that demonstrate how we have delivered value to our customers and society throughout the years.

1959

### Pursuing Efforts to Achieve the Deming Prize

#### Competing on a Global Stage with Quality, Not Price

International competition began to intensify with the approaching liberalization of automotive trade. To survive under such circumstances, we decided to pursue efforts to achieve the Deming Prize, one of the most prestigious awards for quality control. Accordingly, we participated in interviews with companies that had received the prize and attended outside seminars. We also established quality-related educational activities specific to employee rank. Further, study sessions for employees on the front lines were held on a near-daily basis. Without being overly confident in the knowledge and experience we had accumulated in the past, we worked on a Companywide level to learn about quality control and revised the way we approached our work from the bottom up. As a result, in October 1961, we became the first Toyota Group company to receive the Deming Prize. Our efforts toward receiving this prize laid the foundations for the "Quality First" approach and corporate culture that we still embrace to this day.

"Cherish modesty, sincerity, and cooperation."



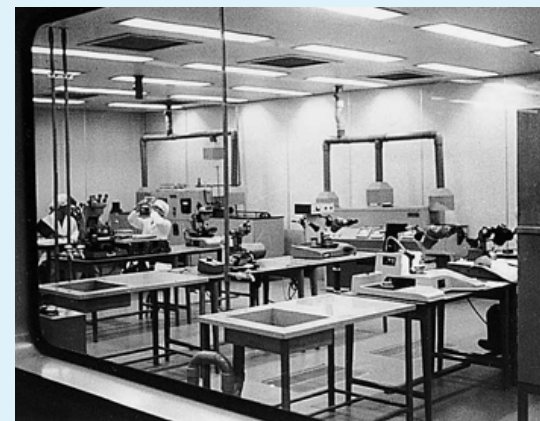
1968

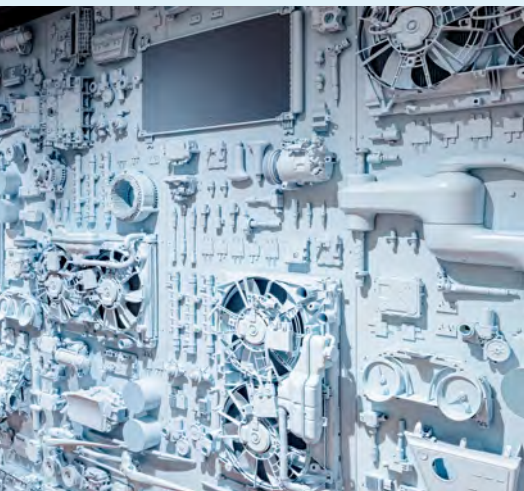
### Transition to the In-House Production of Semiconductor Products

#### Learning and Acting with the Utmost Sincerity So That We Could Pave the Way for the Creation of Products with Social Value

In 1968, we established the IC Research Center in anticipation of the shift to the electronic control of automotive components in the future. Through this center, we commenced the automotive industry's first full-scale development of semiconductors, including their manufacture. We believed that only an automotive component manufacturer such as ourselves could realize semiconductors that operate in the unique environment of an automobile. Accordingly, to provide products that offer true value to society, we worked to acquire production facilities, establish an R&D structure that included external experts, and sought knowledge from large-scale semiconductor manufacturers in other industries. After successfully mass-producing semiconductor products, we continued to challenge ourselves with the development of even more ambitious products, which helped grow electronic-related products, including semiconductors, into one of our mainstay products today.

"Be trustworthy and responsible."





## Development of Over 130 World-First Products Creating Technologies That Led the Era

We began to expand from electrical equipment to overall system development, including power transmission and air-conditioning, and promptly established the IC Research Center in anticipation of the shift to the electronic control of automotive components in the future. Through such efforts, we have thus far created over 130 world-first products, including the independent development of robots and QR codes. To this day, we remain determined to further refine our technologies in various fields at our cutting-edge research centers, global technical centers, and other locations with a focus on five to 20 years in the future.

**“Be pioneering, innovative, and creative.”**

### Development of QR Codes—Resolving Individual Issues on the Front Line

In the 1990s, frontline manufacturing began to shift toward the production of a wide variety of products in small quantities. Against this backdrop, there was a need to increase barcode capacity in order to manage production in a more meticulous manner. As we started to understand the limitations of improving barcode scanning alone, we commenced the production of two-dimensional codes which have larger capacity than conventional ones. Furthermore, to accelerate reading speed, we analyzed the proportions of various letters and symbols to incorporate ones with unique proportions into these codes. By doing so, we developed QR codes with large capacity and high-speed readability. QR codes are now being used in a wide variety of settings across the world. Particularly, in recent years, QR codes are being put to use in a wider range of areas, such as traceability systems that leverage these codes together with blockchain technology.



Please see the following URL, “Revolutionizing traceability with QR Codes and blockchain,” for examples of QR code utilization.  
<https://www.denso.com/global/en/news/stories/all/211018-01/blockchain>



1972

## Leading the World with the Electronic Control of Engine Combustion

### Understanding That We Are Working to Bring Smiles to the People of the Future

The United States became the first country in the world to enact regulations on exhaust gas due to the worsening problem of air pollution. With regulations regarding automobiles becoming more rigid in the 1960s, we developed electronic fuel injection (EFI) systems with a focus on creating an even better tomorrow. As EFI systems have free control over the engine, we believe they could become a future mainstay product that could clear next-generation environmental regulations without sacrificing fuel efficiency and drivability. We therefore commenced the development of these systems even without a previous track record of doing so. Based on the idea that individual components should be thought about, designed, and evaluated based on the overall system that is the automobile, we were able to produce a demo vehicle equipped with an internally developed EFI system. This demo vehicle was introduced to and eventually adopted by our customers. The endeavor reflected our desire to enhance the attractiveness of automobiles while addressing their negative aspects and to provide the highest level of quality possible from the customer's perspective. This desire remains unchanged to this day.



**“Provide quality products and services.”**

# / History /

## History of Innovation and Creation

### What We Have Cultivated in the Over 70 Years Since Our Founding

DENSO's innovations start from a focus on the future and what makes people happy. Our mission as a corporation is to anticipate changes in society and resolve social issues from the perspective of sustainability. Based on this mission, we have continued to realize growth while consistently leading changes in the mobility domain and repeatedly pursuing innovations and new creations. Throughout this journey, we have cultivated strengths and capitals that will continue to be the source of our value creation well into the future, thereby expanding our business domains.

Our Three Cultivated Strengths

☐ P.22-25

Our Accumulated Capitals

☐ P.26-27

Creating New Value through Our Seven Core Businesses

☐ P.28-29

#### Revenue

¥2.0 trillion → ¥3.1 trillion → ¥5.5 trillion  
Fiscal 2001                  Fiscal 2011                  Fiscal 2022

#### Revenue

Fiscal 1951 to fiscal 1978 show non-consolidated revenue, while fiscal 1979 and thereafter show consolidated revenue. In addition, from fiscal 2014, the financial statements have been prepared based on International Financial Reporting Standards (IFRS). (Japanese accounting standards were employed up to and including fiscal 2013.)

1950                  1961                  1971                  1981                  1991                  2001                  2011                  2022 (FY)





## History of Creating Value to Address Social Issues

● Green ● Peace of mind

### 1950s

Taking on the challenge of resolving social issues using cutting-edge technologies from the time of our founding

●	Developed and mass-produced the battery electric vehicle "DENSO-GO" to reduce global gasoline shortages
●	Developed Japan's first car and bus air-conditioning systems. Although there was a concern that such systems would impede driving performance, these systems were able to overcome that notion and quickly grew in popularity due to their high level of convenience and comfort.

### 1960s

Taking on the challenge of addressing air pollution in advance of tightening emission regulations

●	Achieved the practical application of EFI systems ahead of regulations on exhaust gas. After doing so, we continued to develop products that respond to environmental regulations, one after the other.
● ●	Established a system for the complete in-house production of integrated circuits (ICs) for automobiles. Accumulated a large amount of knowledge on the importance of semiconductors and ICs by conducting thorough analysis

### 1970s

Responding to full-fledged regulations on exhaust gas and building a foundation for safety products

●	Established Nippon Soken Inc. through a joint investment with 10 other automotive component manufacturers with the aim of researching technologies to address exhaust gas
●	Developed O <sub>2</sub> sensors as an important tool for controlling exhaust gas. Vehicles equipped with DENSO systems comprising EFI, O <sub>2</sub> sensors, and three-way technology were able to comply with Japan's Showa 53 (1978) exhaust gas regulations, which were said to be the world's strictest regulations at that time. Due to the fact that our EFI systems could comply with strict exhaust gas regulations, the number of cars equipped with these systems began to rapidly increase.
●	Participated in the Comprehensive Automobile Traffic Control System (CACCS) project initiated by the Ministry of International Trade and Industry (currently the Ministry of Economy, Trade and Industry). The technologies cultivated through our participation in this project would later help us develop car navigation systems and connected driving products.

### 1980s

Accelerating the commercialization of safety systems for preventing traffic accidents causing fatalities

●	Developed the world's first electronic control-type diesel pumps, which impressed the world with their ability to control exhaust gas, reduce fuel consumption, and realize high output
●	Commenced the mass production of vacuum sensors, which represented the world's first in-vehicle semiconductor sensor. With this technology, we led the way ahead of other companies by equipping semiconductors with sensors and thereby adding value.
●	Gradually realized the practical application of safety systems, including anti-lock brake systems, airbag sensing systems, and forward collision warning systems

### 1990s

Contributions to eco-friendly lifestyles with core technologies

●	Focused on the development of car air-conditioning systems that use natural refrigerant to curb the destruction of the ozone layer caused by conventional refrigerant
●	Developed the world's first electronic control-type common rail system. Pioneered the way with common rail-type systems that would later dominate the market
● ●	Commercialized household heat pump water supply systems that contribute to energy savings. Also, developed water filters, QR codes, and other products that make people's lives more comfortable

### 2000s

Popularizing and expanding safety products and products powered by electricity

●	Formulated DENSO Eco Vision 2005. Accelerated efforts to reduce CO <sub>2</sub> emissions from business activities
●	Developed world's first inverter with dual-side cooling. DENSO's technological capabilities were acknowledged through the development of these inverters, leading to a rapid increase in their production volume.
●	Developed world's first forward-looking radar sensor using millimeter waves. Able to operate even in rainy and foggy environments, these sensors helped enhance the safety of automobiles.

### 2010s

Entering into a once-in-a-century paradigm shift

●	Developed motor generators. These motor generators realized highly efficient, eco-friendly power generation and driving.
●	Developed Global Safety Package 1, an advanced safety system using a monocular camera and millimeter-wave radar sensor. Equipped with this safety system, the Toyota Prius received the top five-star rating in the European New Car Assessment Programme (Euro NCAP).
●	Developed retrofitted acceleration control devices for when drivers accidentally step on the gas pedal, thereby enhancing the safety performance of vehicles already sold and on the road
●	Developed <i>Profarm T-cube</i> , an environmental control device for agricultural greenhouses, with the aim of supporting agriculture in Japan and avoiding future food crises

### 2020s

Aiming for excellence in the domains of green and peace of mind

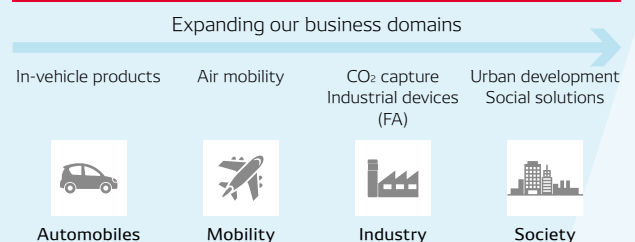
● ●	Formulating comprehensive strategies in the domains of green and peace of mind. We are accelerating initiatives with the aim of realizing carbon neutrality by 2035 and becoming a leading company in terms of offering peace of mind to society.
●	Strengthening our development structure and global production structure for products powered by electricity, including at the Hirose Plant and the Electrification Innovation Center. Through this effort, we aim to realize an annual production of 1,200 inverters by 2025.
●	Developing Global Safety Package 3, which helps improve safety performance by recognizing the environment surrounding the vehicle. We are expanding the scenarios in which to use accident prevention, safety, and driver support products. We are also commencing efforts to expand the global sales of such products based on the concept of realizing compactness and low cost.

### 2030s

Responding to the dramatic changes in the social environment by leveraging our long-cultivated strengths to adapt and expand our areas of contribution

Through these efforts, we aim to be a company with an indispensable presence in society.

#### Adapting and Expanding Our Areas of Contribution

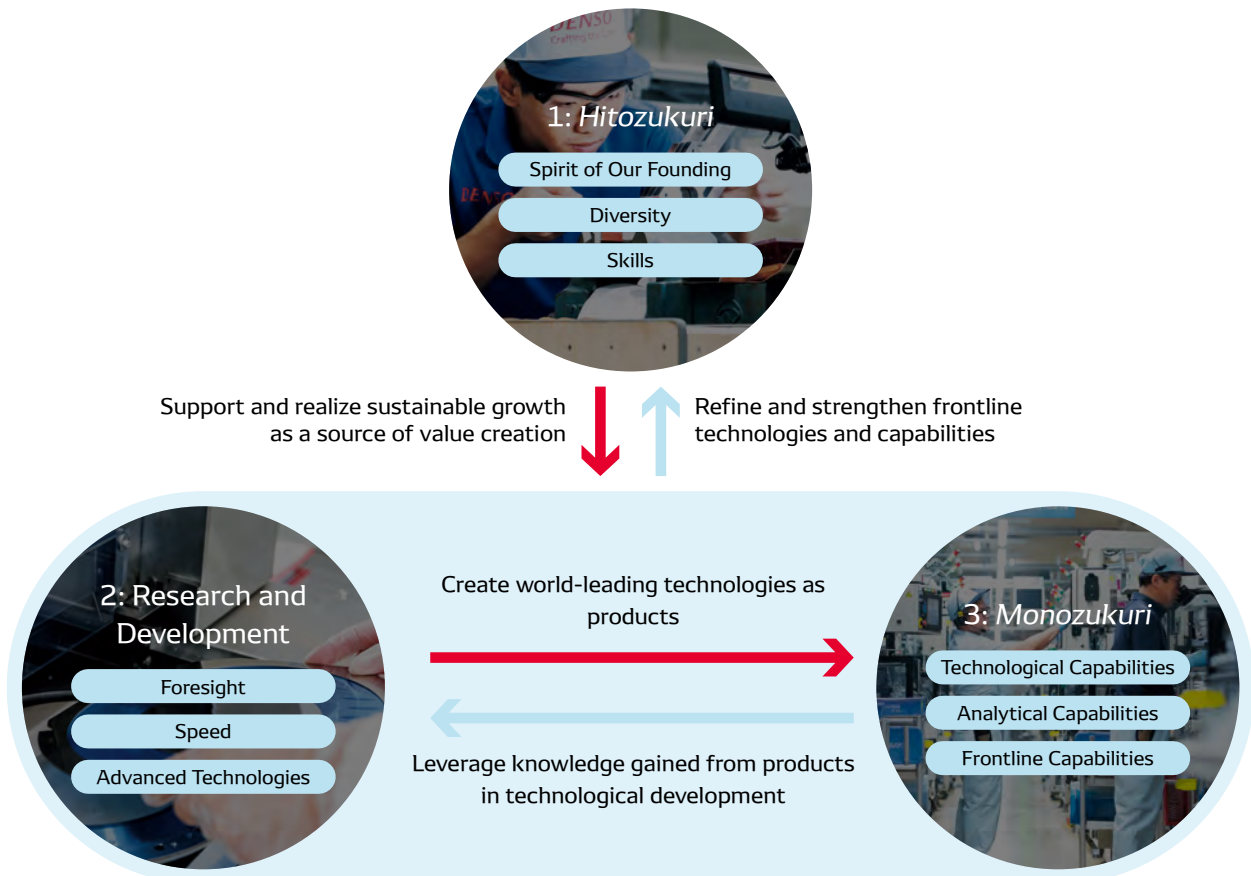


## The Greatest Strengths That Have Driven DENSO's Growth

# Our Three Cultivated Strengths

Over its 70-year history, DENSO has cultivated various unique strengths. These strengths have been passed down since DENSO's founding and further refined through the Company's DNA, the DENSO Spirit, which permeates the actions of all DENSO employees around the world. The connections between these strengths have driven DENSO's growth over the years. Amid a challenging business environment going forward, DENSO will further enhance these strengths as the driving force behind value creation that is uniquely DENSO.

### Relationship Between Our Three Strengths



### Initiatives That Combine Our Three Strengths

#### Significantly Enhancing the Performance of BEVs through a Highly Efficient Eco Heat Pump—A World-First Technology

Our highly efficient eco heat pump system, which is adopted in the Toyota bZ4X and the Subaru Solterra, is a new product that helps increase the practicality of BEVs. This system makes effective use of energy in BEVs, which do not have an engine to provide a heat source, by extracting heat from outside air and using it as a heat source.

To significantly increase cooling and heating performance compared with conventional products, we used advanced heat control technologies to simplify the refrigeration cycle into a receiver cycle. By doing so, we successfully improved cooling and heating performance while reducing the number of required components. In addition, the heat pump system is equipped with the world's first defrosting function that activates when the BEV is moving, utilizing driving exhaust heat. This function helps improve the energy efficiency of BEVs. Furthermore, through DENSO's ultrafine processing technologies, a strength of our *Monozukuri* activities, we realized the system's high-performance compact chiller, which contributes to greater battery cooling performance.

Through the introduction of model-based control development, we have significantly reduced the development period and working hours required to develop these kinds of new products, which bring together our strengths and world-first technologies. In addition, the development project for this heat pump system was made possible by the comprehensive knowledge and capabilities of the project's diverse team members, comprising personnel from four Toyota Group companies and 16 divisions of DENSO. Going forward, we will continue to create attractive products for BEVs together with our customers by bringing together our three strengths of *Hitozukuri*, R&D, and *Monozukuri*.

# 1: Hitozukuri

"The best products are made by the best human resources." DENSO has positioned human resources as its most important management resource. Accordingly, the Company has focused on the training and skill development of employees based on the idea that human resource development supports R&D and *Monozukuri* (manufacturing). We are also globally promoting a broad range of initiatives to develop leaders who can take charge of new businesses and oversee the future of DENSO so that we can continue to achieve continuous growth going forward.

## Roots of Our Strengths

- 1954** Established the Technical Training Center. This center fostered the principles of "*Monozukuri is Hitozukuri* (Our performance relies on our people)" and "Engineering and technique go hand in hand." These principles continue to be passed down within the Company.
- 1961** Received the Deming Prize, the most prestigious award for quality control. Winning this prize laid the foundations for the "Quality First" approach and corporate culture that we still adopt to this day.
- 1977** Received our first gold medal in the WorldSkills Competition. Receiving this medal was the result of our skills training on which we have been focusing our attention since our founding.
- 2001** Commenced the Technology Discussion Forum, which encourages healthy competition among our engineers through group discussion and interaction.
- 2005** Established DENSO Training Academy Thailand, our first overseas regional training center. This center helped us build a structure for educating engineers and technicians on a global basis.

## The Key to Our Strengths

### Spirit of Our Founding

#### DENSO Spirit

#### Boldly Taking On New Challenges No Matter What the Circumstances

The DENSO Spirit is one of foresight, credibility, and collaboration. It also establishes a culture of values and beliefs that DENSO has cultivated since its establishment in 1949. Accordingly, the DENSO Spirit is shared among all employees. As an action guideline that provides the driving force for contributing to the mobility society and the lifestyles of people as well as the source of our competitiveness, the DENSO Spirit permeates the actions of the approximately 170,000 DENSO Group employees around the world. Guided by this spirit, we are using the passion and ambition of all our employees as the driving force for implementing our day-to-day work procedures and accelerating innovation amid this period of dramatic change.

Number of employees (fiscal 2022):  
Approx. 170,000

### Diversity

#### Global human resource development

#### Introducing a Global Common Personnel Management System to Promote the Active Role of a Diverse Group of Employees

DENSO introduced a global common personnel management system targeting the members of senior management at its headquarters and at each Group company. This system incorporates a "Global Individual Grade" that focuses on the individual capabilities of senior management members. By using a common grading tool to evaluate and promote its senior staff, DENSO allows its personnel around the world to develop their careers on a global scale.

Ratio of local employees in leadership roles at overseas bases (fiscal 2022):  
26%

### Skills

#### Cultivation of young technicians

#### Nurturing Advanced Technicians as the Key to Corporate Growth

To nurture advanced engineers and technicians, DENSO has been operating the DENSO Industrial School (offering industrial high school and specialized vocational high school courses), which carries on the tradition of the technical training schools established in 1954. In addition to domestic Group companies, this school supports the development of technicians from certain suppliers and overseas offices. Many young technicians who participated in our educational systems have gone on to become WorldSkills Competition medalists who compete at the world's highest level.

Total number of medals earned at the WorldSkills Competition (as of August 31, 2019): 69

## Further Enhancing Our Strengths

### Promoting "DENSO Culture DX" through the Cultivation of AI-Savvy Human Resources

DENSO is promoting "DENSO Culture DX" activities, which involve maximizing the performance of its approximately 170,000 globally diverse human resources and fully utilizing the on-site know-how and data that it has cultivated for over 70 years. As part of the foundation to support these activities, we are accelerating efforts to provide AI-related training to all employees so that they can begin working in a manner that offers more added value. Specifically, we provide a wide range of educational content in accordance with employees' level of AI understanding and individual position. These educational activities help employees not only improve their own individual work and the work performed by their respective department but also realize operational and business reforms in collaboration with external shareholders. Through the promotion of these activities, we aim to enhance the AI literacy of all employees at DENSO CORPORATION (training of 15,000 employees already completed as of June 2021) so that they are able to properly utilize AI within their work. In addition, by the end of fiscal 2023, we aim to cultivate 2,000 AI-savvy human resources who can fully leverage AI in their duties.



## 2: Research and Development

By accurately ascertaining social needs, DENSO has created competitive products with a commitment to world-first and world-best offerings. In our R&D activities, which have been the starting point for the value creation that allows us to create such products, we are planning technologies in a wide range of fields with a focus on five to 20 years in the future and strengthening our R&D structure. Additionally, to create optimal products in each region, enhance the appeal of mobility, and contribute to the future mobility society, we operate technical centers and laboratories around the world.

### Roots of Our Strengths

- 1953** Commenced a technical cooperation agreement with Robert Bosch GmbH. Under this agreement, we established a technological and production base with the aim of becoming a comprehensive manufacturer of automotive parts that can keep pace with global companies.
- 1985** Established Nippondenso America, Inc., with which we jointly created our first overseas technical center. Through this center, we built an optimized structure for the development, production, and supply of local products.
- 1991** Established the Fundamental Research Center (currently the Advanced Research and Innovation Center). At this center, we have carried out R&D activities on future technologies that cover a wide range of fields. Today, this center continues to create a large number of innovative technologies that lead to the development of world-first and world-best products.
- 2014** Completed the establishment of technical centers in seven regions across the globe. Through these centers, we have set up a structure to create competitive products that can promptly meet diversifying local needs.
- 2020** Established the Electrification Innovation Center (EIC), which promotes efforts to strengthen our development and production of products powered by electricity, and Global R&D Tokyo–Haneda, which conducts the development of automated driving and other technologies. By doing so, we have accelerated our R&D activities in the domains of green and peace of mind.

### The Key to Our Strengths

Foresight

Speed

Advanced Technologies

Commitment to world-firsts



Global Development Network



Advanced research with a view to the future

#### Creating Over 130 World-First Products

We have established “contributing to a better world by creating value together with a vision for the future” as the DENSO Philosophy. By keenly ascertaining social changes, we have been engaging in product development with a commitment to world-firsts since our establishment. We have created over 130 world-first products, including gas injection heat pump systems, common rail systems, millimeter-wave radar sensors, and ejectors, which have provided us with a driving force for growth.

Number of world-first products:  
Over 130

#### Technical Centers in Seven Regions throughout the World and Laboratories in Epicenters of Innovation

We have established technical centers in seven regions across the globe, in addition to laboratories in Canada, Israel, Silicon Valley, and other epicenters of innovation. We also promptly incorporate diversified regional needs into our development process to create competitive products, which are subsequently delivered to our customers.

Number of global R&D bases: 13

#### Advanced Research That Estimates and Anticipates the Future Mobility Society

Since its establishment in 1991, DENSO's Advanced Research and Innovation Center contributes to an advanced automotive society through the creation of innovative technologies. Guided by this mission, the laboratory led the way with advanced technologies such as semiconductors, electronic materials, AI, and ergonomics. By integrating such technologies with the skills of DENSO's R&D personnel, the Advanced Research and Innovation Center has created innovative technologies that help resolve social issues.

Number of new patent registrations in the automotive industry (fiscal 2022):  
Japan, 4; United States, 7

### Further Enhancing Our Strengths

#### Enhancing Development Efficiency and System Proposal-Making Capabilities through Model-Based Development

The importance and complexity of software development has been rising with the progression of CASE. Amid these circumstances, it is necessary to enhance the added value of products and significantly reduce the development period through *Monozukuri* activities that link hardware with software. To that end, we have adopted the highly effective method of model-based development (MBD), which involves utilizing simulated models in order to enhance the efficiency and reduce the time of complex system development. Through the utilization of MBD, extensive system inspection can be executed via computers from the initial design phase. In addition, MBD enables simulations to determine specifications and performance of the entire vehicle, including electrified powertrain systems and air-conditioning and cooling systems.

By doing so, MBD eliminates the need for repeated prototype development and testing, thereby reducing the burden of reworking designs. In these ways, MBD allows us to strengthen our engineering capabilities and offer optimized proposals for overall systems to our customers as a comprehensive system supplier.

In addition, the Japan Automotive Model-Based Engineering Center seeks to popularize MBD across the entire automotive industry. Through this participation, we are tackling such endeavors as standardizing interfaces in an effort to enhance the international competitiveness of Japan's automotive industry.

## 3: Monozukuri

Since its inception, DENSO's *Monozukuri* (manufacturing) has thoroughly integrated in-house technologies. Through *Monozukuri* positive steps are taken to design and manufacture equipment, production lines, materials, and processing methods. This enables us to provide society with the world's most advanced groundbreaking technologies and products conceived by our R&D team. We have striven to develop speedy and efficient production lines and compact unique facilities, as well as streamline distribution and inspection with our own production technology. In recent years, we have commenced efforts to digitalize the know-how we have accumulated over many years on the manufacturing front lines and leverage it as explicit knowledge. This has enabled us to also ensure high efficiency and high quality and offer competitiveness and added value to our products.

### Roots of Our Strengths

- 1968** Created the IC Research Center to establish a structure for the production of semiconductors completely in-house in anticipation of the shift to the electronic control of automotive parts in the future.
- 1972** Established our first overseas production company. Since then, we have accelerated the establishment of additional overseas production companies, helping us gain an understanding of the needs in each region and begin production activities that meet those needs.
- 1979** Received the Okochi Memorial Production Prize. This prize was received in recognition of our highly accurate, high-quality *Monozukuri* that was realized through our comprehensive in-house manufacturing of production lines and equipment.
- 1984** Launched a project for the practical application of robots. Furthermore, the development of such technologies as barcode readers and RFID,\* which we pursued in a similar manner as robots, helped establish the foundation of our current factory automation (FA) business.
- 1997** Commenced Excellent Factory (EF) activities. We began to expand activities on a global basis to improve our factories, led by personnel on the front lines of production. These EF activities represent the origins of DENSO's ambitious activities focused on quality improvements.

### The Key to Our Strengths

#### Technological Capabilities

#### World-leading production and engineering

##### Production Structure That Enables Mass Production of World-First and World-Only Products

DENSO leverages world-class micro-processing, paying attention to detail down to the 1/1000 mm, and an assembly line that improves production efficiency and quality. DENSO also supports world-first products and the world's highest level of product performance and quality through research on cutting-edge production, elemental, processing, and measurement technologies as well as through the development of production lines and systems that adopt such technologies.

Amount of capital expenditures (fiscal 2022): ¥353.9 billion

#### Analytical Capabilities

#### Factory-IoT (F-IoT) that leverages the knowledge of people to the greatest extent possible

##### Working to Improve Productivity That Connects People and Factories Globally

We take our abundance of data on people, products, and facilities and convert it into valuable information, such as information on signs of equipment flaws and information that contributes to expert know-how. We offer such information to people that desire it at the times they need it and in a format that they prefer. By doing so, we are accelerating activities aimed at making improvements and contributing to the growth of people. We aim to form global linkages between our 130 plants in an effort to improve productivity on a Groupwide basis.

Number of plants with F-IoT: 130

#### Frontline Capabilities

#### Excellent Factory (EF) activities that realize growth for both factories and people

##### Promoting EF Activities Focused on Eliminating Product Defects and Lost Operational Time

Our plant general managers lead the way with EF activities in which all factory workers participate. By focusing on making improvements to areas that are easily overlooked and establishing production lines that create high-quality products, EF activities make it easy to identify issues within our factories. Through the continued efforts of all employees to address issues when they do occur, EF activities cultivate human resources that are dedicated to making improvements and also help us realize a global-leading level of competitiveness.

Energy Conservation Grand Prize Award: Received for 12 consecutive years

### Further Enhancing Our Strengths

#### Receipt of Energy Conservation Grand Prize Award in Recognition of Reducing Steam Amounts by Roughly 70% through the Reuse of Plant Waste Heat

In fiscal 2022, DENSO received the Energy Conservation Center Chairman's Prize, the Grand Prize, in the Examples of Energy Conservation Division of the Energy Conservation Center, Japan (ECCJ)'s Award Program, in recognition of the Company's efforts to reuse plant waste heat in order to reduce the amount of steam used to heat pure water for the cleaning of semiconductors. This marked the 12th consecutive year in which DENSO has won this award.

The cleaning process for semiconductors uses pure water that has had all impurities removed via a filtration device. During the filtering process, it is necessary to raise the temperature of the water, and steam is generally used as the means to do so. In our effort to reduce steam amounts, we were extremely adamant about reusing the waste heat that is dispersed throughout our plants, and by making efforts to reuse waste heat from such facilities as cooling towers, we were able to reduce the amount of steam needed for heating pure water by a total of 67%. This is equivalent to a 491.5-kL reduction in crude oil a year. Going forward, we will continue to pursue thorough energy-saving activities with the aim of realizing carbon neutrality within our *Monozukuri* (manufacturing) activities.

\* RFID (radio frequency identification): A non-contact system that reads data from RF tags using electromagnetic waves



## Capitals That Enable Us to Be a Leading Company in the Mobility Domain

# Our Accumulated Capitals

The capitals that we have accumulated while achieving growth as a company now support our business activities and provide us with a source for enhancing our corporate value. Efforts to refine the substance of the strengths that drive our growth will allow us to reinforce our human, manufacturing, intellectual, natural, and social and relationship capitals, which in turn will help us increase our financial capital. To realize sustainable growth through this kind of cycle, we will not only maintain but also enhance these capitals going forward.

### Financial Capital

#### Striving to Realize a Slim, Sturdy, and Flexible Operating Structure

To continue to contribute to society through the concepts of "green" and "peace of mind," we need to be able to realize sustainable business growth by expanding our equity spread. By accomplishing this, we are able to generate capital for investing in capital expenditures, R&D activities, and human resources. Through the steady execution of our new financial strategies, we aim to realize a slim, sturdy, and flexible operating structure.

□ P.57-64

### Human Capital

#### Turning Our People and Organization into a Group of Professionals with the Ability to Make Their Ambitions a Reality

To create new value, it is essential to have a group of employees with diverse thoughts and ideas working with enthusiasm and sufficiently leveraging their capabilities. To that end, we will promote efforts to enable employees to envision their dreams and make them a reality while also striving to improve the well-being of employees and maintain and enhance their level of engagement with their work and the organization.

□ P.65-67

### Manufacturing Capital

#### Skills That Continuously Evolve and On-Site Capabilities That Enable Constant Improvements

As software becomes more extensively involved and utilized in automobiles and as DENSO grows its business domains, we believe there are two major elements to achieving differentiation: "high-quality, highly reliable, and world-leading *Monozukuri*," which we have cultivated in the automobile domain, a domain where people entrust their lives to us, and "the ability to offer a stable supply on a global basis." To that extent, we strive to evolve *Monozukuri* through the utilization of digital-twin technologies, energy-saving technologies, and other innovative technologies.

□ P.68-69

#### ROE



By achieving ROE that exceeds the cost of shareholders' equity, which is the expectation of our stakeholders, we aim to realize ROE of over 10% by fiscal 2026 so that we can enhance corporate value on a continuous basis.

#### Ratio of Overseas Employees



With business operations in over 30 countries and regions around the globe, DENSO enjoys an employee base comprising approximately 170,000 individuals of different genders, ages, nationalities, and lifestyles and brimming with a diverse array of thoughts and ideas.

#### Capital Expenditures



We are accelerating necessary investment in focus fields such as electrification and advanced safety. At the same time, we are engaging in highly disciplined investment decision-making and promoting management in accordance with changes in the external business environment.

## Intellectual Capital

### Promoting R&D Activities That Realize World-First and World-Best Offerings with a Focus on the Trends of the Times

We find ourselves in the midst of a paradigm shift in which new technologies are being created at a tremendous speed, and the nature of business itself is changing. In this environment, there is a need to bolster R&D capabilities to secure a competitive advantage if we are to enhance corporate value. To that end, we will boost our investment efficiency through the introduction of cutting-edge technologies and promote intellectual property (IP) strategies that are integrated with our business strategies. By doing so, we will expand our development domains and accelerate development speed.

□ P.70–71

## Natural Capital

### Pursuing Environmental Neutrality in Order to Both Preserve the Global Environment and Create Economic Value

DENSO's business activities have a close relationship with natural capital as we make use of industrial water and mineral resources as raw materials for our products. For that reason, minimizing the impact we have on natural capital is an important theme for DENSO. In addition to further refining our long-cultivated environmental technologies, we will pursue a wide array of efforts to become environmentally neutral, including the efficient use of natural capital and the reduction of our environmental burden.

□ P.72–76

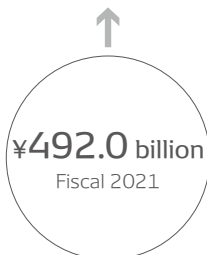
## Social and Relationship Capital

### Strengthening Our Bonds with Diverse Stakeholders through Dialogue in Pursuit of Mutual Growth

For a company like DENSO, which promotes its business activities while being involved with a wide range of stakeholders, building good relationships with stakeholders and gaining even more allies are imperative elements for enhancing corporate value. To that extent, we are repeatedly holding dialogues with stakeholders in order to deepen our understanding of social expectations and external opinions. We are also working to increase the number of allies with whom we collaborate. Such efforts will allow us to strengthen and expand our various types of capital.

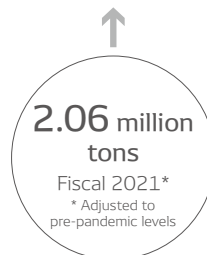
□ P.77–79

#### R&D Expenses



We will support our business strategies by building an IP portfolio centered on our focus fields and strengthening IP activities geared toward open innovation.

#### CO<sub>2</sub> Emissions (Consolidated)



Aiming for the ambitious target of becoming carbon neutral (achieved with carbon credit use by 2025 and completely achieved by 2035), we are steadily working to reduce our CO<sub>2</sub> emissions.

#### Number of Supplier Companies

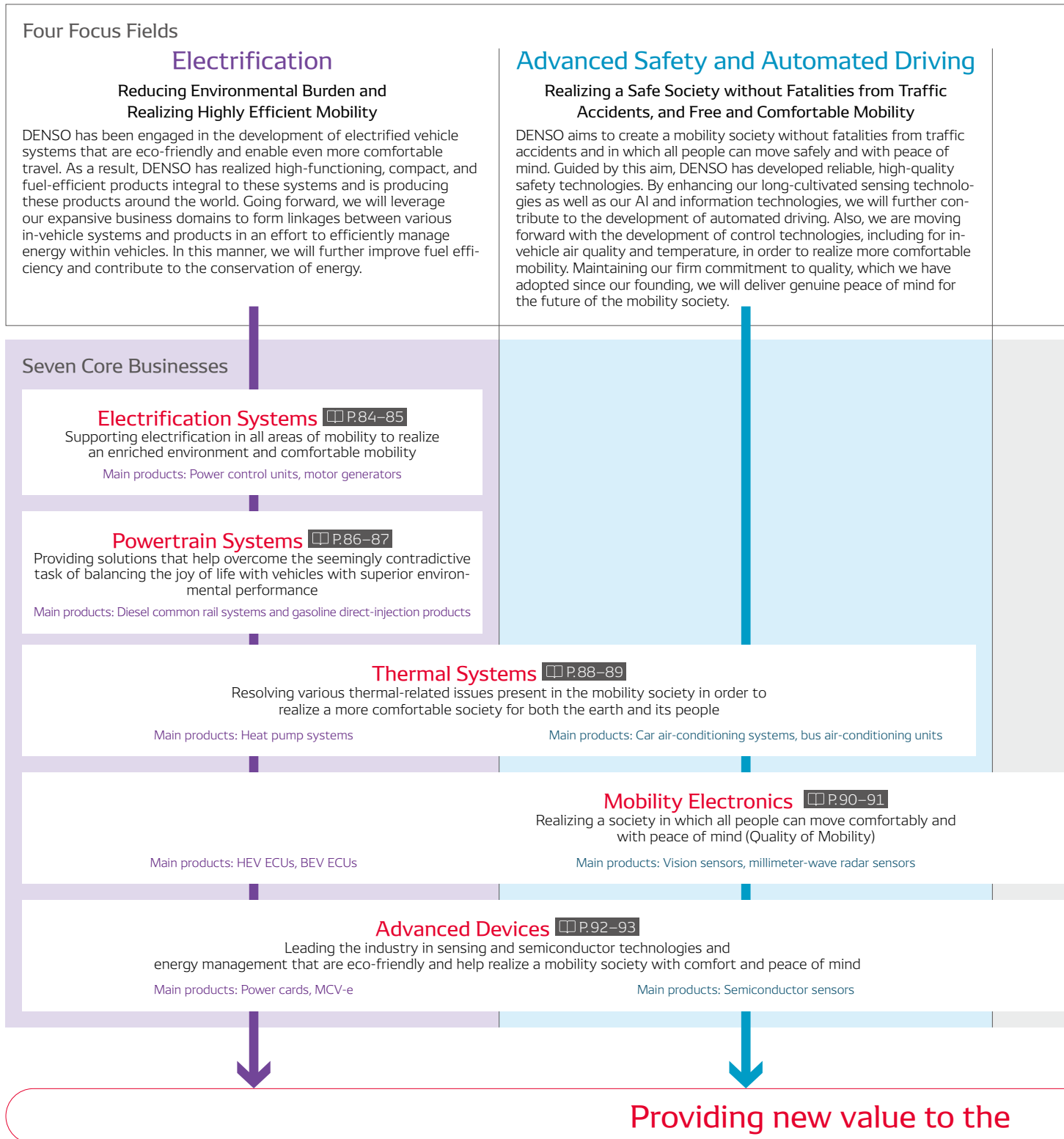


With the support of our various stakeholders, including our customers, suppliers, local community members, and employees, we are promoting business activities to ensure that we can deliver products and services to customers around the globe.

Pursuing a Variety of Businesses That Will Support the Mobility Society of the Future

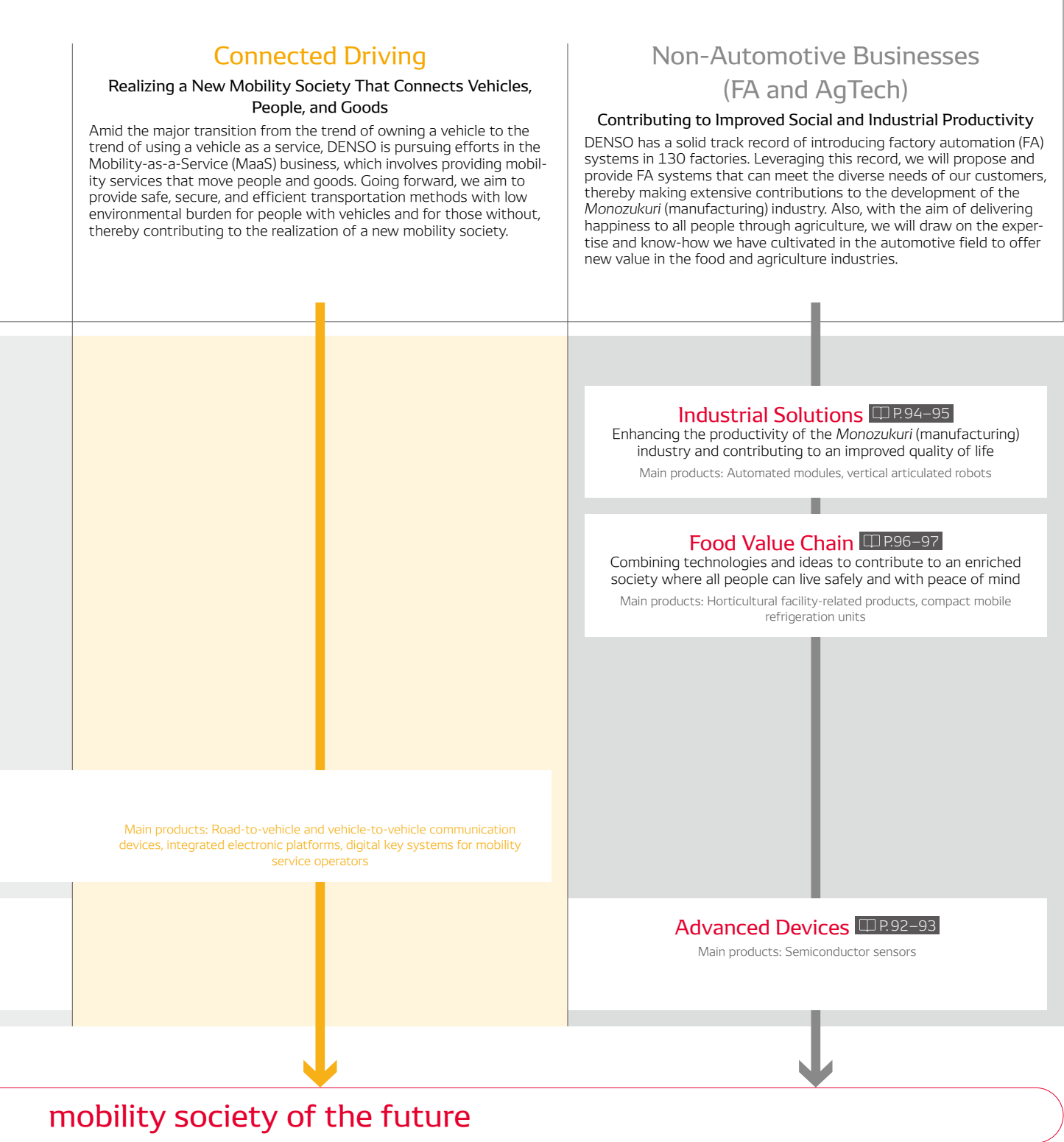
# Creating New Value through Our Seven Core Businesses

## Relationship between Our Four Focus Fields and Seven Core Businesses





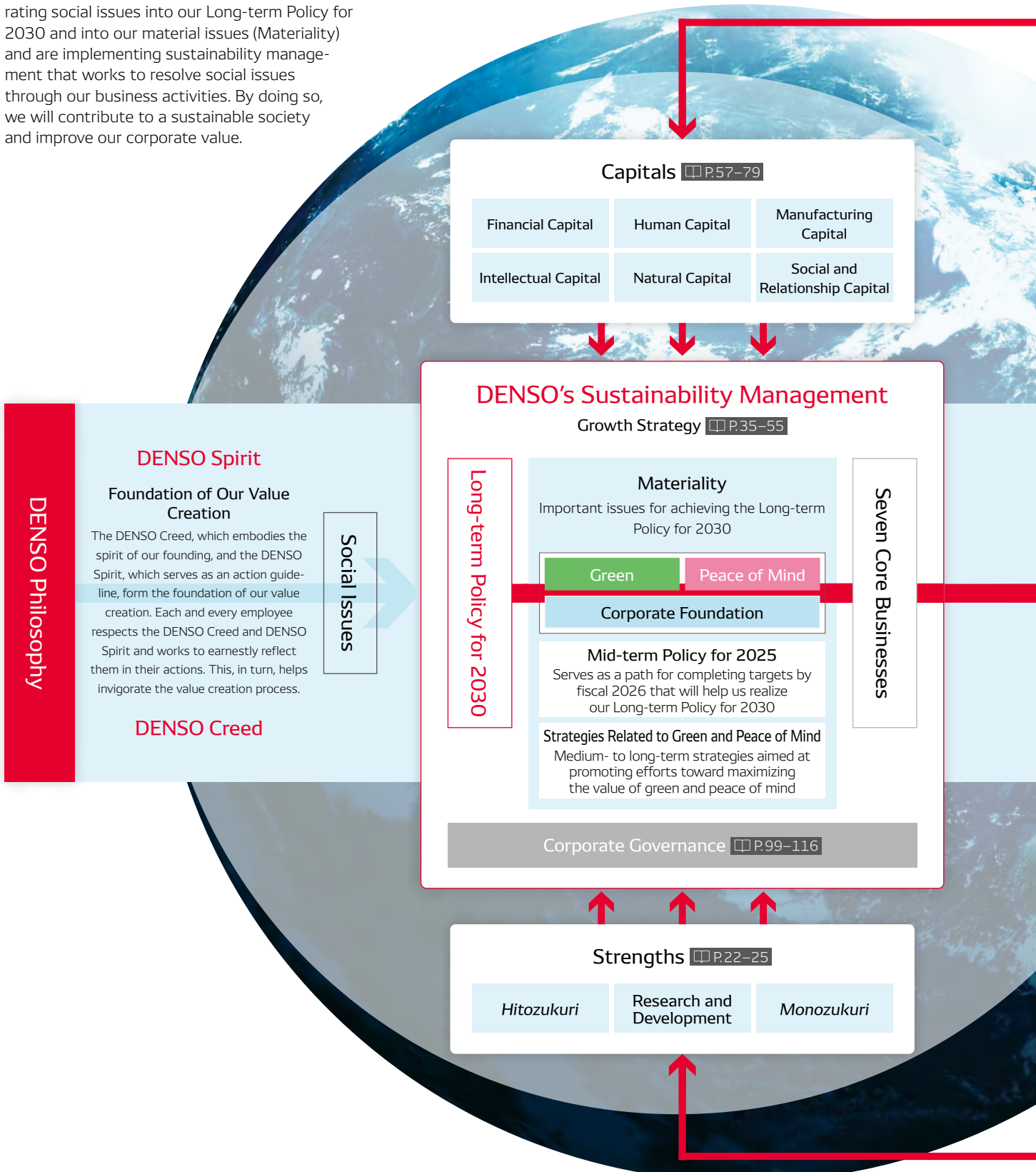
DENSO was established as a manufacturer of electrical equipment and radiators. Since its establishment, the Company has expanded its business domains in conjunction with social change, applying the technologies it has cultivated in the mobility domain, its main area of operation, to develop lifestyle- and industrial-related equipment. At the moment, DENSO has seven core businesses that devise solutions for the mobility society of the future. Centered on these core businesses, DENSO is making full use of the technologies it has accumulated in the mobility domain as it pursues a variety of businesses that support the mobility society of the future.



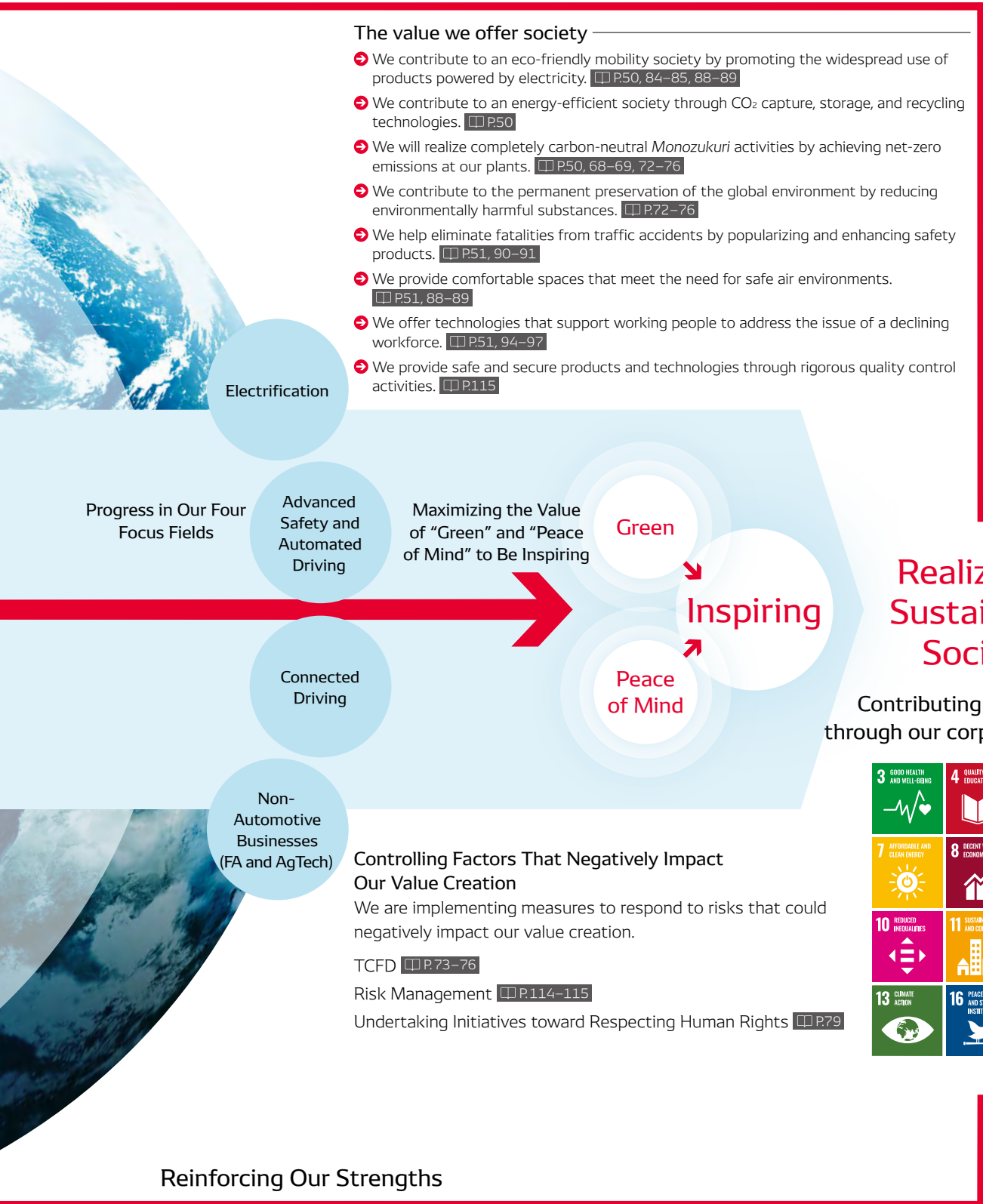
DENSO's Value Creation Process

# Maximizing the Value of "Green" and "Peace of Mind" to Continue to Grow with Society

To fulfill the DENSO Philosophy, we are incorporating social issues into our Long-term Policy for 2030 and into our material issues (Materiality) and are implementing sustainability management that works to resolve social issues through our business activities. By doing so, we will contribute to a sustainable society and improve our corporate value.



## Strengthening Our Capitals



### The value we offer society

- ➔ We contribute to an eco-friendly mobility society by promoting the widespread use of products powered by electricity. P50, 84-85, 88-89
- ➔ We contribute to an energy-efficient society through CO<sub>2</sub> capture, storage, and recycling technologies. P50
- ➔ We will realize completely carbon-neutral *Monozukuri* activities by achieving net-zero emissions at our plants. P50, 68-69, 72-76
- ➔ We contribute to the permanent preservation of the global environment by reducing environmentally harmful substances. P72-76
- ➔ We help eliminate fatalities from traffic accidents by popularizing and enhancing safety products. P51, 90-91
- ➔ We provide comfortable spaces that meet the need for safe air environments. P51, 88-89
- ➔ We offer technologies that support working people to address the issue of a declining workforce. P51, 94-97
- ➔ We provide safe and secure products and technologies through rigorous quality control activities. P115

## Realizing a Sustainable Society

Contributing to the SDGs through our corporate activities



### Controlling Factors That Negatively Impact Our Value Creation

We are implementing measures to respond to risks that could negatively impact our value creation.

TCFD P.73-76

Risk Management P.114-115

Undertaking Initiatives toward Respecting Human Rights P.79

## Reinforcing Our Strengths



Special Feature: Value Creation in Action

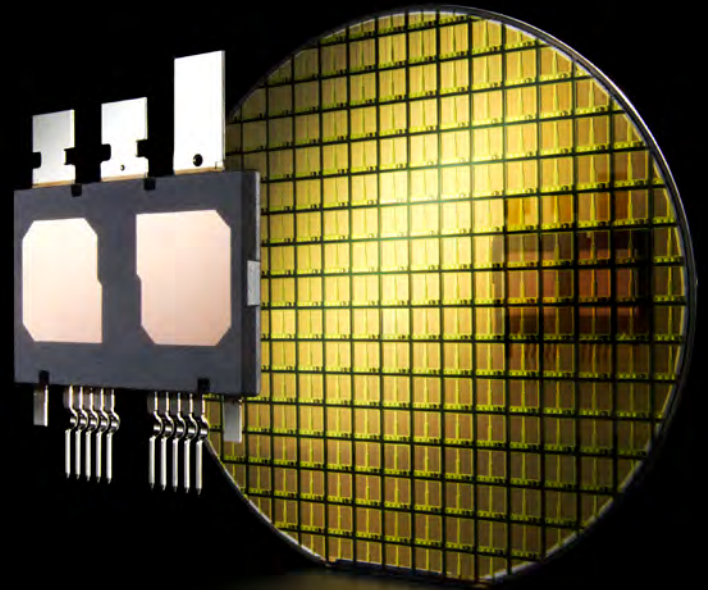
# Promoting Electrification and Contributing to a Carbon-Free Society through Next-Generation Silicon Carbide Power Semiconductors

To realize the DENSO Philosophy, which is grounded in the ideals of the DENSO Creed, we are pursuing sustainability management that focuses on resolving social issues through our business activities. Using our newly developed silicon carbide (SiC) power semiconductors as an example, this section introduces DENSO's value creation story, including the strengths we have cultivated over our history that have led to the resolutions of social issues as well as our vision for the future.

## Social Issues

### Increase in Electricity Consumption Following the Evolution of Mobility and Popularization of Electrified Vehicles

The sales volume of electrified vehicles that significantly contribute to reducing environmental burden is estimated to increase by 1.5 times between 2020 and 2035, leading to an expected increase in the volume of electricity consumption. Enhancing power usage efficiency and controlling the rise in electricity consumption are the keys to promoting the popularization of electrified vehicles and the shift to smart mobility in the future.



### Contribution to Popularizing Electrified Vehicles and Reducing CO<sub>2</sub> by Enhancing Power Efficiency through SiC Power Semiconductors

To popularize electrified vehicles and contribute to the reduction of CO<sub>2</sub> while resolving the social issue of increasing electricity consumption, DENSO has developed SiC power semiconductors that incorporate unique patented structural technologies and production technologies.

### Characteristics of SiC Power Semiconductors and Contributing Fields

Power semiconductors are semiconductors that receive instructions from the electronic control unit (ECU) to operate inverters or motors. To ensure that power semiconductors required for the energy management of electrified vehicles endure the harsh in-vehicle environment, it was necessary to develop power semiconductors that use SiC. Since SiC performs very well under high-temperature, high-frequency, and high-pressure environments compared with the silicon that has been used up until now, it has gained attention as a raw material that reduces power loss in inverters, contributes greatly to downsizing, and accelerates the electrification of mobility. However, since commercially available SiC materials did not deliver the quality requirements for in-vehicle use, it was necessary to develop the material in-house. DENSO has

produced SiC that can endure the in-vehicle environment by developing high-quality materials.

Equipping inverters with DENSO's SiC power semiconductors has reduced the volume by approximately 60% and power loss by around 70% compared to previous power semiconductors, realizing the downsizing of the product and enhancement of fuel efficiency. As a result, we have been able to contribute to the resolution of the social issue of increasing electricity consumption.



### Capitals and Strengths Built Up during Our History of Semiconductor Development to Date

The reason DENSO was able to develop semiconductors that can endure the harsh in-vehicle environment was the capitals and strengths built up during our long history of developing semiconductors.

The history of initiatives for in-vehicle semiconductors at DENSO dates back to the 1960s, when a research center for in-vehicle semiconductors was set up with the aim of shifting to in-house production. Additionally, we have promoted initiatives for mass production and commercialization through vertically integrated development capabilities that cover the entire process, from material development and production through to system design. Furthermore, DENSO has completed the development of tough semiconductor products by repeatedly measuring and improving the endurance of products under extreme environments to understand what kind of environment the developed products can operate normally under.

DENSO has also completely commercialized SiC power semiconductors over a period of approximately 25 years.

These power semiconductors have been utilized in the Toyota MIRAI, which was launched in December 2020. This was the result of the strength of the ideals of the business unit that has continued to deliver in-vehicle semiconductor products since the semiconductor team was founded in the 1960s. The employees never gave up on commercialization despite facing the difficulty of controlling the quality of a material such as SiC for close to 30 years.



Members of the Electrification Components Advanced Development Division that develops inverters

<b>Capitals</b>	<p>Manufacturing capital: Production structure and quality assurance structure that continue to provide society with in-vehicle semiconductor products</p> <p>Intellectual capital: Pioneering knowledge of in-vehicle semiconductor development built up since the 1960s</p> <p>Social and relationship capital: Collaboration with MIRISE Technologies, which is responsible for SiC development</p>
<b>Strengths</b>	<p><i>Hitozukuri</i>: Knowledge handed down by predecessors and synergized with the creative power of young employees in response to issues specific to in-vehicle environments that have accumulated over time</p> <p>Research and development: Vertically integrated development capabilities that apply technology built up through mobility-related development and utilize comprehensive strengths</p> <p><i>Monozukuri</i>: In-house production capabilities for semiconductors that clear difficult in-vehicle standards</p>

### Value Provided to Society

#### Realization of a Carbon-Free Society

By further popularizing the SiC power semiconductors newly developed by DENSO, we have been able to popularize electrified vehicles and promote CO<sub>2</sub> reduction, contributing to one of the goals of DENSO's environmental strategy—"contribute to the electrification of automobiles and reduce our CO<sub>2</sub> emissions to the greatest extent possible." Furthermore, we aim to achieve a low-carbon society and then carbon neutrality by 2035 for a future where electricity will be essential in even more situations.

### Message from an Employee

#### Further Evolution of Power Semiconductors and Their Connection to Carbon Neutrality

Despite achieving commercialization of SiC power semiconductors, SiC is only just at the threshold of electrification. The true value of DENSO's semiconductors will be tested to see whether they can fully meet the expectations for electrification, which is experiencing a fully-fledged acceleration. Furthermore, there are numerous possibilities for SiC power semiconductors. Going forward, the application of power semiconductors in wireless power and wireless power transfer to moving vehicles in the future will enable power supply systems to become significantly smaller and more efficient. Additionally, semiconductors must become even tougher as new electrified mobility becomes tougher, as exemplified by the all-electric vertical take-off and landing (eVTOL) aircraft, which is essentially a flying car, relative to construction machinery and conventional mobility like commercial trucks. Power semiconductors that operate in a stable manner should be used in these situations. We will continue striving to meet new needs as a whole by utilizing experience gained from the commercialization of SiC.



From left: Kazuhiro Tsuruta of MIRISE Technologies and Shoji Kanda from the Sensing Systems & Semiconductor R&D Division



# Growth Strategy

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- 36 Aims and Road Map for 2030
- 38 Awareness of Business Environment
- 40 **1** Materiality
- 42 Results of the Long-term Plan for 2025 and Mid-term Policy for 2021
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- 48 **2** Mid-term Policy for 2025
- 50 **3** Strategies for “Green” and “Peace of Mind”



# Sustainability Management

## Accelerating Efforts toward Sustainability Management

One of the ideals of the DENSO Creed is “provide quality products and services.” This ideal signifies DENSO’s approach since its founding for continuing to be a company that society needs by pursuing innovations in anticipation of the changing times and resolving social issues through quality products and services. In addition, this ideal serves as the basis for our approach to sustainability management, toward which we are currently accelerating efforts. Furthermore, we have established the DENSO Group Sustainability Policy to ensure that all DENSO employees act appropriately as members of a global organization and in accordance with the DENSO Creed and DENSO Philosophy throughout the interactions they have with our stakeholders and with society as a whole.

## Long-term Policy for 2030

In the promotion of sustainability management, DENSO has formulated the Long-term Policy for 2030, which serves as a vision for what the Company aims to be by 2030. In addition to maximizing the value we provide through “green” and “peace of mind,” two of our fundamental areas of focus, we have adopted the theme of “inspiring” and are

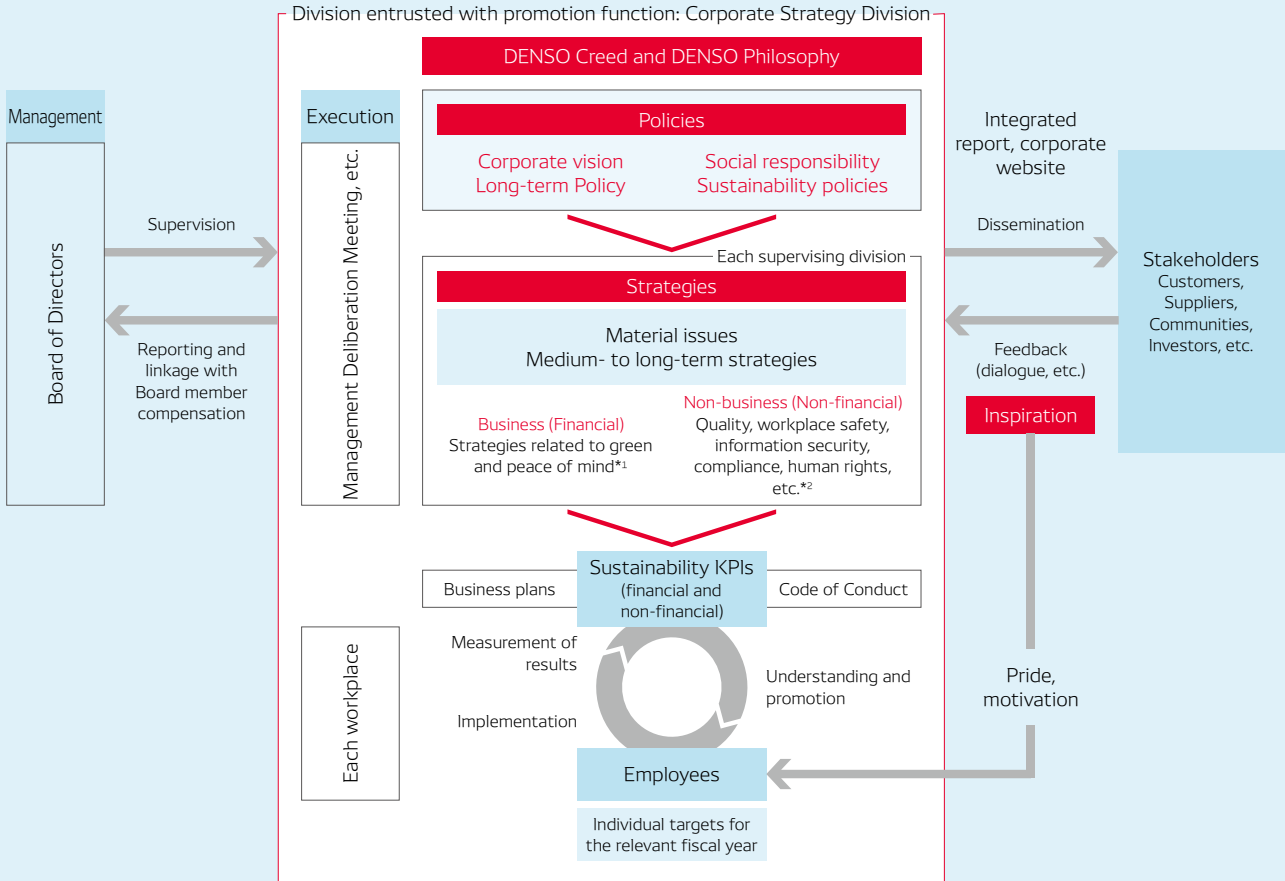
working to create new value for society that can inspire our diverse stakeholders.

## Promotion Structure for Sustainability Management

DENSO has appointed members of the Board and senior executive officers as the personnel in charge of sustainability management and has entrusted the promotion function for Companywide sustainability management to the Corporate Strategy Division. This division is involved in such efforts as drafting policies and action plans related to sustainability, providing follow-up support for the sustainability activities of each division, and engaging in internal and external communication.

Furthermore, matters such as the direction of sustainability management and the status of Companywide sustainability activities are reported to and deliberated on by the Company’s formal committees (such as the Management Deliberation Meeting) and overseen by the Board of Directors. In addition, the divisions in charge of individual sustainability themes promote activities to address these themes in collaboration with relevant divisions and after deliberation on said themes by each expert committee.

## Promotion Structure and Division for DENSO’s Sustainability Management



\*1 Strategies deliberated on by the Management Strategy Meeting and the Management Deliberation Meeting (see page 101)

\*2 With committees in charge of these themes, such as the Quality Assurance Meeting and the Companywide Safety, Health, and Environment Committee serving as the secretariat, initiatives to address these themes are deliberated on by the Company’s formal committees.



Please see this URL to view the DENSO Group Sustainability Policy.

<https://www.denso.com/global/en/-/media/global/about-us/sustainability/management/management-doc-sustainability-policy-en.pdf>



# Aims and Road Map for 2030

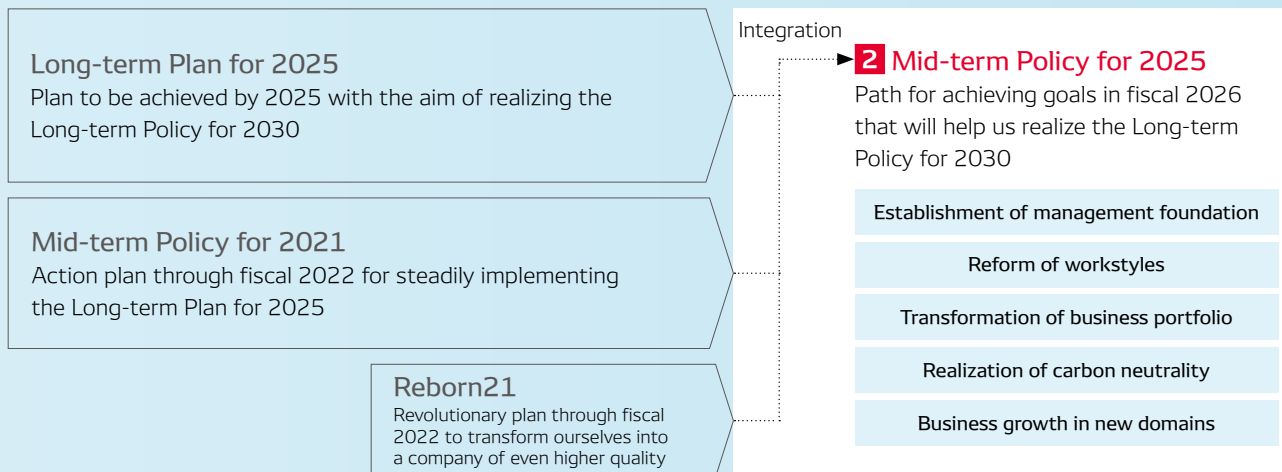
The DENSO Philosophy provides the foundation for drawing the outline of the Company’s management policies, and sustainability management acts as the core mechanism for realizing these policies. In light of the aforementioned changes in the business environment and from the perspectives of both risks and opportunities, DENSO has formulated its Long-term Policy for 2030, which serves as our vision for 2030. The Company also established material issues (Materiality) and various strategies as a path for realizing its Long-term Policy for 2030. Through these efforts, DENSO is implementing sustainability management.

Recently, we integrated our Long-term Plan for 2025, our Mid-term Policy for 2021, and the three strategies we are promoting under Reborn21 into the new Mid-term Policy for 2025. By promoting this policy alongside our strategies related to green and peace of mind, we will aim to realize our Long-term Policy for 2030.

## DENSO Philosophy: Contributing to a better world by creating value together with a vision for the future

| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |

### Sustainability Management



### 3 “Green” and “Peace of Mind” Strategy

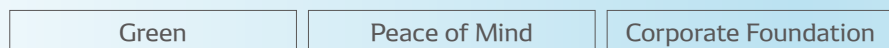
Medium- to long-term strategies for further maximizing the value of green and peace of mind

Realize carbon neutrality by 2035

Become a leading company in the provision of peace of mind to society

### 1 Materiality

Important issues for achieving the Long-term Policy for 2030



Awareness of the projected business environment of 2030 used to formulate the Long-term Policy for 2030

## Growth Indicators to Realize the Long-term Policy for 2030 and Social Issues We Aim to Resolve

To realize its Long-term Policy for 2030, DENSO is working to achieve growth in its top line by realizing growth in new mobility domains and promoting management reforms, among other efforts. However, with the increased level of uncertainty regarding the outlook for consumption demand, and based on the fact that our highest priority issue recently has been to establish a structure that is resilient to changes in the business environment, we are now placing the most emphasis on profitability as an indicator for growth and aim to achieve ROE of 10% or higher and an operating margin of 10% by fiscal 2026.

Furthermore, we have made connections between the social issues we aim to resolve through our business activities and the Sustainable Development Goals (SDGs), and have clarified the goals we aim to achieve on a Companywide level. At the same time, our employees have determined individual goals that they can work toward through their job and are working on a daily basis to do so.

| 2025 | | 2030 |

Aim to become a company indispensable to society by creating new value

Growth Indicators (Fiscal 2026)

ROE **10% or higher**

Operating margin **10%**

### Long-term Policy for 2030

#### Slogan

Bringing hope for the future for our planet, society, and all people

#### Our Goal for 2030

A company that continuously generates value to enrich mobility that achieves sustainability, happiness, and peace of mind for everyone

#### Green

#### Lasting vitality for the environment

Contribute to sustainability by increasing efficiency and reducing environmental impact

#### Peace of Mind

#### Providing a sense of well-being

Contribute to future mobility that is safer, more comfortable, and convenient for everyone

#### Inspiring

#### Making a difference

Contribute to happiness for everyone through inspiring value-added offerings

### SDGs We Aim to Achieve through Our Business Activities

#### Main targets to be achieved using our products and services





# Awareness of Business Environment

Amid the ever-increasing global population, aging societies, and advancing urbanization, the progression of global warming and the increase in traffic accidents are becoming serious social issues. In addition, people's values are diversifying and these issues are becoming increasingly more complex as a result of the digitalization of society and the advancements in robotics, the impacts of the COVID-19 pandemic, and rising geopolitical risks. Furthermore, in the mobility domain, measures are being taken to address a number of issues, such as efforts toward achieving carbon neutrality, reducing traffic accidents, and easing traffic congestion. These issues, coupled with the proliferation of IoT and AI, have led to advancements in electrification, automated driving, and connected driving.

Going forward, we will continue to pursue the resolution of social issues while accurately assessing and responding to risks and opportunities related to these various social changes.

## Forecasts of Future Society

### Politics

- Tightening supply--demand situation for energy across the globe and the shift from low carbon to carbon free
  - Acceleration of international cooperation to respond to climate change in light of the urgent need to address global warming .....①
  - Necessity of promoting renewable energy and a hydrogen-based society .....①
  - Restrictions on power generated from fossil fuels and internal combustion engines .....①
- Establishment of laws to control adverse impacts on the environment and human rights throughout the entire supply chain .....①②
- Intensifying confrontation due to differences in political structures (trade, technologies, human rights, etc.) .....④
- Rising geopolitical risks .....②③④

### Economy

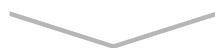
- Declining economies in advanced countries, rise in prominence of emerging countries, and global multi-polarization .....②③④
- Rise in nationalism due to growing regional disparities .....③④
- Establishment of economic blocs advantageous to individual countries and ongoing regional optimization .....④
- Expansion of ESG investment and acceleration of divestment .....①②

### Society

- Threat to the sustainability of society due to the rapid increase in population, with the global population exceeding 8 billion .....①②③④
- Aging populations around the world, declining workforce, acceleration of growth in life expectancies .....②③④
- Urbanization in emerging countries, acceleration of urban regeneration due to the shift to smart and compact devices .....③④
- Consumption behavior becoming more ethical and experience-based with the shift to the sharing economy .....①②
- Progression in the transition to labor offered by AI and robotics, changes in work ethic and available free time .....②
- Change in value systems related to social distancing and mobility .....②

### Technology

- Integration of digital and physical domains due to the proliferation of IoT-related technologies (communications and other devices) .....②
- Productivity enhancement and value chain integration through the use of big data .....②
- Transition from the development phase to the phase of AI and quantum computer utilization and the versatile implementation of AI in manufacturing, finance, and services .....②
- Accelerating shift to non-contact and full automation in various industries as a result of the COVID-19 pandemic .....②



## Keywords for Social Changes by 2030

### ① Shift toward a recycling-oriented, carbon-free society

Changes in the powertrain mix  
(electrified vehicles, internal combustion engine vehicles)

### ② Diversification of people's values and consumption behavior

Diversifying consumption behavior and value systems  
Evolution of IT communications × Automobiles

### ③ Emergence of social issues

Aging population, depopulation, overcrowding, and congestion

### ④ Structural changes and instability within the international community

Political conflicts and geopolitical risks Growth of new emerging markets

## Risks and Opportunities

### ① Shift toward a recycling-oriented, carbon-free society

#### Risks

- Tightening and acceleration of environmental regulations on the automotive industry
- Introduction and expansion of environmental taxation by the governments in each country and region
- Increasing demand for the transition to carbon neutrality within the product production process

#### Opportunities

- Increasing needs for systems to respond to electrification and alternative fuel (e-fuel, hydrogen fuel, and biofuel)
- Heightened expectations for new technologies that contribute to carbon neutrality (CO<sub>2</sub> capture, storage, reuse, etc.)
- Growing demand for highly efficient production technologies that achieve solid energy-saving effects

### ② Diversification of people's values and consumption behavior

#### Risks

- Reduction in transportation as the customs in the new normal era become commonplace
- Intensifying competition due to the increasing entry of IT companies in the automotive industry in response to the digitization of cars

#### Opportunities

- Heightened awareness of "peace of mind," leading to the diversification of technologies related to "peace of mind" and expansion in value systems (social distancing, privacy, disaster alerts, etc.)
- Rising need for added value due to the accelerating shift to digital technologies and IT
- Growing awareness of eco-friendly products

### ③ Emergence of social issues

#### Risks

- Trend in turning away from automobiles due to the impact of social issues (increase in traffic accidents due to the declining birthrate and aging population, air pollution, worsening traffic congestion resulting from urbanization, etc.)

#### Opportunities

- Expansion of businesses that contribute to the resolution of social issues (growing needs for automated driving, the prevention of traffic accidents, food safety, electrification to address labor shortages, etc.)

### ④ Structural changes and instability within the international community

#### Risks

- Revisions to business models (regulation response and supply chains) due to conflicts between countries and regions
- Rising threats toward DENSO's business management (military strikes, cyberattacks, etc.)

#### Opportunities

- Progressing expansion of new markets and business partnerships with the aim of resolving social and environmental issues

CONTENTS	PROLOGUE	CEO MESSAGE	DENSO's Value Creation Story	Growth Strategy	Foundation for Creating New Value	Overview by Product	Corporate Governance	Corporate Data
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## Social Changes as of 2030 and Key Initiatives for DENSO

We are narrowing down our forecasts of future society, revising them every year through PEST (political, economic, social, and technological) analysis, using social changes as of 2030 as a key theme. In accordance with this theme, we have analyzed risks and opportunities and identified key initiatives for DENSO moving forward. We will work to gain an accurate understanding of the outlook for the CASE revolution and changes in the mobility society, and thoroughly examine whether or not these changes will have an impact on the key initiatives of DENSO.

### Response Measures to Risks and Opportunities

Regarding the risk of climate change, we believe there will be greater opportunities for us to popularize our long-cultivated technologies for fuel efficiency, low exhaust gas, and electrification around the world. Through flexible cooperation and competition with other companies, we aim to accelerate the development of technologies for reducing CO<sub>2</sub> emissions and realize the stable supply of such technologies on a global scale. At the same time, we will help reduce CO<sub>2</sub> emissions across society through the development of new technologies such as those that capture, store, and reuse CO<sub>2</sub>. We will also strive to reduce and curtail CO<sub>2</sub> emissions from our business activities, including in our manufacturing activities and across our supply chain, with a view to achieving a carbon-free society.

By swiftly responding to diversifying needs such as automated driving and the provision of safe and comfortable vehicle interiors, we can increase the number of growth opportunities for DENSO. To respond to the risk of companies from other industries entering the automotive industry, we are collaborating with other companies both inside and outside the automotive industry to leverage our respective fields of expertise while also strengthening our unique technological and *Monozukuri* (manufacturing) capabilities. By doing so, we will invigorate our development activities in new domains with a sense of speed.

Alongside the commercialization of products such as household appliances and automobiles, social issues such as aging societies, the depopulation of rural areas, overcrowding of urban areas, and traffic congestion have become more severe. To resolve these issues, we will accelerate the development of technologies that help prevent accidents and eliminate traffic congestion. By leveraging the know-how we have cultivated through our *Monozukuri* activities, including in-vehicle, automation, and IoT know-how, we will strive to constantly develop technologies and create businesses in the non-automotive domain that help keep people safe and work to expand these technologies and businesses across the globe.

Against the backdrop of differences between political structures, the international community is becoming increasingly confrontational and factionalized in various fields, and we forecast that this will bring about dramatic change in our operating environment and increase business risks. To achieve stable business management under these circumstances, we are strengthening our governance and risk management systems so that we can respond flexibly to changes and risks.

### Key Initiatives for DENSO

#### Maximizing the Value of "Green" and "Peace of Mind" to Be Inspiring

The rapid changes in society that will occur going forward (such as changing values and behavior) present a significant opportunity for a company such as DENSO, which has continued to refine technologies and gain experience in the mobility domain. With the aim of reducing our environmental burden and realizing a society without traffic accidents, we will actively promote the creation of a mobility society with a view to achieving the goals of "lasting vitality for the environment" and "safe, comfortable, and flexible mobility for all people." Furthermore, we will leverage the technologies we have cultivated through automotive products, system development, and *Monozukuri* to offer peace of mind and safety not just in the mobility domain but to all people in society. By doing so, we will continue to create new value that inspires society.



#### Reinforcing the Corporate Foundation That Underpins Our Value Creation

To flexibly resolve social issues, which are becoming more complex and diverse, we need to strengthen our risk management and other governance frameworks with the goal of minimizing the impacts of risk. It is also important that we cultivate professional human resources and establish a vibrant organizational culture. In these ways, we will support the creation of higher quality value at faster speeds by reinforcing our management foundation.



# 1 Materiality

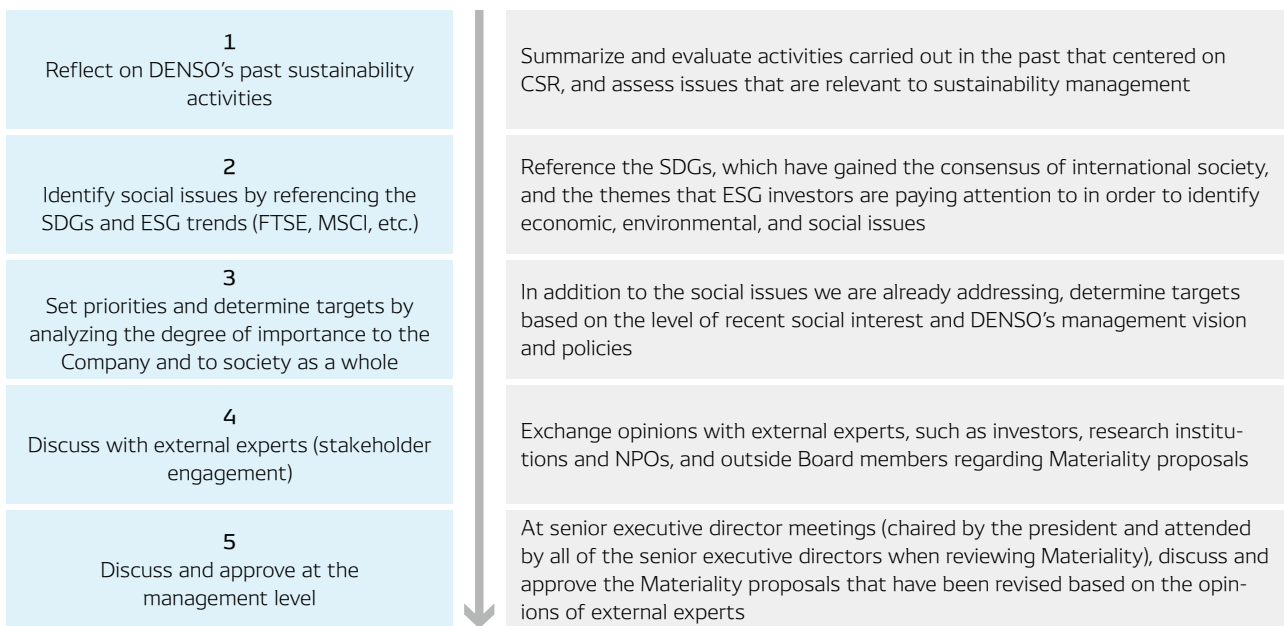
We have determined material issues (Materiality) to be addressed in order to achieve our Long-term Policy for 2030 and are accelerating sustainability management in an effort to resolve these issues. Among our social forecasts based on our awareness of the projected business environment of 2030 as well as the various social issues that are present today, including those highlighted in the SDGs, we have adopted the three themes of “green,” “peace of mind,” and “corporate foundation” as areas that have a high level of importance for realizing a sustainable society and areas in which we can make particularly significant contributions. Accordingly, we are sharing information on the material issues we have identified in each of these fields on a Companywide basis and have established a specific vision and KPIs (numerical indicators, or guides) related to each material issue we have identified. By achieving these KPIs through our business activities, we will strive to realize our Long-term Policy for 2030 and resolve social issues going forward.

## Materiality

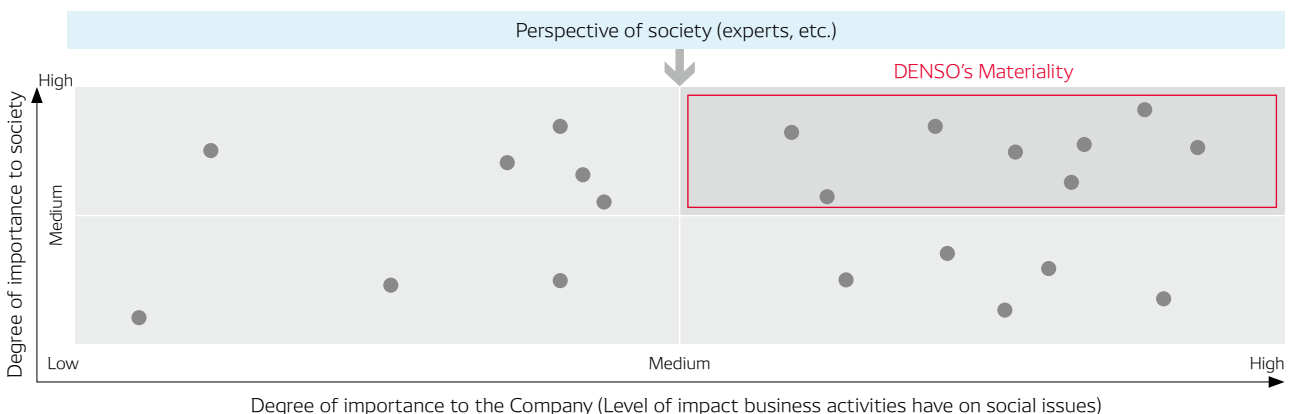
DENSO has selected important issues from among the various issues society faces within the three areas of “green,” “peace of mind,” and “inspiring” declared under DENSO’s Long-term Policy for 2030.

## Process for Determining Materiality

DENSO evaluates the importance of each issue to society and their importance to management and selects their material significance (Materiality) through an approval process at the management level while receiving opinions and advice from third parties.







## Plotting of Social Issues





## Materiality KPIs

We establish KPIs for each of the identified material issues (Materiality), incorporate them into Company targets, and follow up on and discuss at the Management Deliberation Meeting and the Board of Directors' meeting. Furthermore, the level of achievement for some KPIs is evaluated as a calculation index for executive compensation. [□□P104-106](#)

	Materiality	Vision	KPIs (fiscal 2023)	KPIs (fiscal 2026)	Related SDGs
Green	Prevention of global warming ③	Contribute to an eco-friendly and sustainable society by reducing environmental burden and realizing highly efficient mobility <ul style="list-style-type: none"> <li>Reduce our CO<sub>2</sub> emissions from our factories to zero</li> <li>Contribute to the electrification of automobiles and reduce our CO<sub>2</sub> emissions to the greatest extent possible</li> <li>Contribute to realizing a carbon-neutral society through technologies that capture, store, and reuse CO<sub>2</sub></li> <li>Reduce environmentally harmful substances, emissions, and waste to help permanently preserve the global environment</li> </ul>	<ul style="list-style-type: none"> <li>Reduce CO<sub>2</sub> emissions from plants by 25% compared with fiscal 2021 (including carbon credit use)</li> <li>Popularize products in the electrification domain and achieve sales of ¥760.0 billion</li> </ul>	<ul style="list-style-type: none"> <li>Reduce CO<sub>2</sub> emissions from plants by 100% compared with fiscal 2021 (achieve carbon neutrality through energy conservation and carbon-neutral electricity and through carbon-neutral gas using carbon credits)</li> <li>Popularize products in the electrification domain and achieve sales of ¥1 trillion</li> </ul>	
	Prevention of air pollution / Reduction of environmental burden ③				
	Effective utilization of resources ③				
	Conservation of water resources				
Peace of Mind	Reduction of traffic accidents ③	<ul style="list-style-type: none"> <li>Popularize safe products in order to eliminate fatalities due to traffic accidents</li> <li>Address the need for ensuring a safe air environment and provide comfortable spaces</li> <li>Support working people by offering technologies that help resolve the issues associated with a declining workforce</li> <li>Provide high-quality safety products that satisfy and gain the trust of customers</li> </ul>	<ul style="list-style-type: none"> <li>Popularize safety products and achieve sales of ¥428.0 billion in the ADAS domain</li> </ul>	<ul style="list-style-type: none"> <li>Popularize safety products and achieve sales of ¥500.0 billion in the ADAS domain</li> </ul>	
	Provision of flexible and comfortable movement ③				
	Provision of safe and secure products ③				
	Response to decrease in birthrate and aging population ③				
Corporate Foundation	Compliance	<ul style="list-style-type: none"> <li>Ensure that each employee acts in a fair, honest, and ethical manner while complying with laws and regulations in each country and region</li> <li>Provide safe and reliable products to customers, protect information assets, and prepare for cybersecurity risks that the "connected society" faces</li> </ul>	Zero serious violations of laws	Zero serious violations of laws	
	Information security ③		Zero serious incidents	Zero serious incidents	
	Diversity and inclusion	<ul style="list-style-type: none"> <li>Promote the development of people, organizations, and the working environment to encourage our employees to maximize their abilities and work with enthusiasm and peace of mind</li> <li>Respect the rights of all our stakeholders, including our employees and people throughout our supply chain, in our business activities</li> <li>Pursue business activities that take into account environmental issues, human rights issues, and compliance together with our suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Local employees in leadership roles at overseas bases: 20</li> <li>Number of women in management positions at DENSO CORPORATION: 145 in business fields and 145 in technical fields</li> </ul>	<ul style="list-style-type: none"> <li>Local employees in leadership roles at overseas bases: Over 20</li> <li>Number of women in management positions at DENSO CORPORATION: 200 in business fields and 200 in technical fields</li> </ul>	
	Healthy and safe working environment		<ul style="list-style-type: none"> <li>Employee Lifestyle Score*1 at DENSO CORPORATION: 77 points</li> <li>Safety mark*2: 50.0 marks at DENSO CORPORATION; 36.0 marks at domestic Group companies; and 48.5 marks at overseas Group companies</li> </ul>	<ul style="list-style-type: none"> <li>Employee Lifestyle Score*1 at DENSO CORPORATION: Over 77 points</li> <li>Currently considering targets that incorporate improvements to the scores for safety marks on the left</li> </ul>	
	Workstyle reform / Job satisfaction enhancement		<ul style="list-style-type: none"> <li>Rate of positive response to work engagement at DENSO CORPORATION: 72%</li> </ul>	<ul style="list-style-type: none"> <li>Rate of positive response to work engagement at DENSO CORPORATION: 78%</li> </ul>	
	Protection of human rights / Sustainable procurement		<ul style="list-style-type: none"> <li>Attendance rate for human rights education for newly appointed managers and new employees at DENSO CORPORATION: 100%</li> </ul>	<ul style="list-style-type: none"> <li>Currently considering targets in addition to those on the left</li> </ul>	
	Corporate governance		DENSO will support the above targets for Materiality and progress to a more effective governance system as necessary based on factors such as social trends, changes to the external environment, and DENSO's corporate culture.		

③ Targets that can be achieved using our products and services

\*1 Lifestyle Score: Original health management indicator that provides a score for the lifestyle habits of each individual employee using data obtained from health exams  
 \*2 Safety mark: Scoring depending on scale and type of accident. The lower the number the better the score

# Results of the Long-term Plan for 2025 and Mid-term Policy for 2021

In 2017, we formulated the Long-term Plan for 2025 (with fiscal 2026 as the year of achieving these goals) as a pathway to reaching our Long-term Policy for 2030. Additionally, we have established the Mid-term Policy for 2021 (with fiscal 2022 as the year for achieving these goals) as a three-year action plan for steadily advancing the Long-term Plan for 2025. By undertaking these initiatives, we aim to contribute to a sustainable society and enhance corporate value. The results of these initiatives are as follows.

## Relationship between Mid-term Policy for 2021 and Reborn21

Since fiscal 2019, we have been steadily implementing an action plan based on the Mid-term Policy for 2021, but factors such as the COVID-19 pandemic in fiscal 2020 and quality-related issues on an unprecedented scale have shaken the foundation of DENSO. Accordingly, the Mid-term Policy for 2021 has been replaced by a new set of targets framed as Reborn21, a reform plan aimed to transform the Company into a “high-quality DENSO,” which reflects the progress made and the latest business environment.

## Growth of the Four Focus Fields

By pursuing value from the perspective of the vehicle, we will accelerate the commercialization of new mobility fields, thereby driving growth.

<p><b>Electrification</b></p>	<ul style="list-style-type: none"> <li>Cumulative Electrification Group’s R&amp;D investments from fiscal 2019 to fiscal 2022: Approximately ¥200.0 billion</li> <li>Establishment of BluE Nexus Corporation, a joint venture company for the sale and development of the drive module to popularize electrification</li> <li>Creation of the ELEXCORE brand, an electrification product line</li> <li>Development and market launch of the world’s highest level of heat management systems</li> </ul>	<p>Number of inverters produced</p> <p>Fiscal 2019 (excluding the Hirose Plant)</p> <p>Approximately 0.8 million inverters</p> <p>+290%</p> <p>Fiscal 2022</p> <p>Approximately 3.1 million inverters</p>
<p><b>Advanced Safety and Automated Driving</b></p>	<ul style="list-style-type: none"> <li>Cumulative AD &amp; ADAS Business Unit’s R&amp;D investments from fiscal 2019 to fiscal 2022: Approximately ¥245.0 billion</li> <li>Establishment of joint venture J-QuAD DYNAMICS Inc. for development of integrated control systems</li> <li>Expansion of retrofitted products for already-sold vehicles, such as acceleration control devices for when drivers accidentally step on the gas pedal</li> <li>Development and market launch of Global Safety Package 3 (GSP3), an active safety system product</li> </ul>	<p>Number of millimeter-wave radar sensors produced</p> <p>Fiscal 2019: Approximately 4.1 million sensors</p> <p>+100%</p> <p>Fiscal 2022: Approximately 8.3 million sensors</p> <p>Number of vision sensors produced</p> <p>Fiscal 2019: Approximately 3.3 million sensors</p> <p>+90%</p> <p>Fiscal 2022: Approximately 6.2 million sensors</p>
<p><b>Connected Driving</b></p>	<ul style="list-style-type: none"> <li>Subsidiary acquisition of DENSO TEN Limited (formerly FUJITSU TEN) to reinforce competitiveness in the connected domain</li> <li>Development and market launch of cloud-based taxi dispatch system</li> <li>Development and market launch of an accident prevention support system that utilizes data from drive recorders</li> <li>Acceleration of technology development through investment in Uber ATG and other ventures</li> <li>Development of digital key systems for mobility service providers and commercialization in North America</li> </ul>	
<p><b>Non-Automotive Businesses (FA and AgTech)</b></p>	<ul style="list-style-type: none"> <li>Declaration of ¥300.0 billion in sales by 2030</li> <li>Development and market launch of D Series process rationalization solution</li> <li>Development and market launch of D-mobico compact mobile refrigerator in collaboration with Yamato Transport Co., Ltd.</li> <li>Development of traceability system that utilizes QR codes and blockchain technology</li> </ul>	

## Reinforcement of Profitability for Existing Businesses

### Creation of a Perfect Earnings Base to Support Future Growth

- Reinforcement of our ability to respond to changes in demand: Enhance productivity through introduction of F-IoT, reorganize global production and supply system, etc.
- Reduction of fixed costs: Reorganize and aggregate shared service companies, make R&D in the software domain more efficient, etc.

## Technology Development for Achieving Overwhelming Competitiveness

Aggregate technology development for ECUs, semiconductors, sensors, and motors for achieving overwhelming competitiveness of components and systems (Please see the next page for details.)

## Five Pillars of Management Reform

To achieve the Long-term Policy for 2030, DENSO must transition to an organization that acts with unprecedented levels of speed and can invigorate the workplace. To that end, DENSO has adopted the Five Pillars of Management Reform and has been working to realize significant change in its management structure to enhance its organizational capabilities and compete in a challenging business environment.

○: Achieved; △: In progress

Five Pillars of Management Reform	Results and Examples	Evaluation
<b>1. Enhancement of Vehicle Perspective and Streamlining of Technological Development</b> <b>Aim</b> <ul style="list-style-type: none"> <li>Enhancement of vehicle perspective through projects across businesses and functions</li> <li>Aggregation and reinforcement of technology development for ECUs, semiconductors, sensors, and motors</li> </ul>	<ul style="list-style-type: none"> <li>Development of cross-sectional organization that creates value across vehicles (Energy Management Group and Advanced Device Group)</li> <li>Intensification of operations from component sales through to cross-domain development and customer approach</li> <li>Reinforcement of development capabilities as a result of synergy through collaboration with the Toyota Group</li> </ul>	○
<b>2. Advanced R&amp;D Function to Realize Agile Development Globally</b> <b>Aim</b> <ul style="list-style-type: none"> <li>Administration of laboratories around the world by headquarters</li> <li>Promotion of agile development and industry-academia-government network</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of alliances and establishment of laboratories around the world</li> <li>Participation in rulemaking through technical liaison activities, mainly in Europe and the Americas</li> <li>Launch of GIC* to discuss technology topics, led by the headquarters in each region, promoting global hypotheses, strategy creation, and pursuit of advanced technologies</li> </ul> <p>* GIC: Global Intelligence Consolidation</p>	○
<b>3. Business Unit Evolution and Smaller but Stronger Headquarters</b> <b>Aim</b> <ul style="list-style-type: none"> <li>Realization of value creation and provision of professional services through minimization of management operations in functional departments</li> <li>Decision to stop and exponentially increase management speed in operating departments</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of de-emphasis and discontinuation* activities through formulation of a business portfolio that utilizes DENSO's unique style of ROIC</li> <li>Transfer of responsibility and authority to operating departments through increase in transaction amount-based authority delegation standards and simplification of performance follow-up procedures</li> <li>Review of human resource allocation through methods including increase in efficiency through enhancement of expertise in functional departments and DX to implement a shift of power to operating departments</li> </ul> <p>* De-emphasis and discontinuation: Closing and reduction of specific businesses and products (including transfer of businesses) based on business portfolio strategies</p>	○
<b>4. Global Management with Optimal Use of Group and Regional Power</b> <b>Aim</b> <ul style="list-style-type: none"> <li>Autonomous rotation of the PDCA cycle with a timely understanding of conditions in each region</li> <li>Leading of headquarters in each region for the role of sensors</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of an information sharing and strategy creation system that utilizes the strengths of the region through the roles of research and suggestion, not only through PDCA within the region</li> <li>Determination of local business managers to lead the operations in each region, leading of strategy formulation and implementation together with regional CEOs</li> <li>Review of resource relocation and consolidation of functions led by local regions</li> <li>Active participation by overseas human resources through promotion of diversity and inclusion</li> </ul>	○
<b>5. Ways of Working with Tremendous Speed and Efficiency</b> <b>Aim</b> <ul style="list-style-type: none"> <li>Creation of world-ranked IT infrastructure</li> <li>Engagement in drawing out individual capabilities and creating new value through DX</li> </ul>	<ul style="list-style-type: none"> <li>Creation of human resource portfolio strategies that realize business portfolio reforms</li> <li>Steady promotion of DX at all offices</li> <li>Complete introduction of DX at all plants, to 500 lines at DENSO CORPORATION plants and expansion to Group companies in Japan and overseas from fiscal 2023</li> </ul>	△

## Results of Strategies and Initiatives Going Forward

Initiatives for reform have been progressing smoothly. Based on internal reviews, we have reflected the following key initiatives in the Mid-term Policy for 2025.

### Initiatives Going Forward

- Reassessment of DENSO vision and strategies through conceptualization of world views in 2035 and backcasting
- Clarification of areas to be addressed as new businesses in the expanding business domain
- Realization and acceleration of implementing human resource portfolio that achieves business portfolio reform
- Creation of a workplace that enables full demonstration of individual capabilities for 170,000 employees, with a focus on the shift to DX at all plants



## Results of DENSO Revolution Plan “Reborn21”

Since fiscal 2020, DENSO’s operating environment has continued to undergo dramatic changes. These changes have included the impacts of the COVID-19 pandemic, which caused a massive decline in sales. In addition, we saw the occurrence of a quality-related issue, which shook the foundation of our management. In response to these developments, we have been working to restore our quality, which is the foundation of our business and trust, and to transition to a firm and robust corporate structure, which will allow us to respond to changes in the external environment in any age and provide new value. With these aims, we formulated the DENSO Revolution Plan “Reborn21.” In the two-year period leading up to March 31, 2022, we have sought to transform ourselves into a company with even higher value so that DENSO is poised to cut a fresh start. Specific successes of our initiatives can be found below.

○: Achieved; △: In progress

<b>Quality</b>	<b>Taking a humble approach toward thoroughly reinforcing the three pillars that form the basis of our recommitment to quality</b>	
<b>Goal</b>	<b>Complete measures, ensure improvements in quality, and recover trust from customers</b>	
	<b>Successes and Initiative Examples</b>	<b>Evaluation</b>
<b>Reinforce our fundamental technologies</b>	<ul style="list-style-type: none"> <li>Establishment of development and quality assurance systems for individual fundamental technologies to make steady progress in the development of new fundamental technologies</li> </ul>	○
<b>Create excellent working environments that ensure open communication</b>	<ul style="list-style-type: none"> <li>Cultivation of a culture in which quality nonconformities and issues are quickly communicated to relevant parties to facilitate swift responses</li> <li>Entrenchment of well-grounded action directed by division leadership through quality control teams</li> </ul>	○
<b>Adopt a humble stance</b>	<ul style="list-style-type: none"> <li>Fostering of recognition of compliance as a fundamental principle and of related culture</li> <li>Reduction of error in growing volume of software development processes through digital transformation</li> </ul>	○
<b>Strategy</b>	<b>Committing to the principles of “green” and “peace of mind” in business</b>	
<b>Goal</b>	<b>Formulate long-term scenarios for maximizing environmental performance and peace of mind, move forward with development of concrete technologies, and advance product deployment plans</b>	
	<b>Successes and Initiative Examples</b>	<b>Evaluation</b>
<b>Green</b>	<ul style="list-style-type: none"> <li>Commencement of annual tracking of key performance indicators related to business continuity and CO<sub>2</sub> emissions (mobility products)</li> <li>Formulation of CO<sub>2</sub> emissions reduction plan leading up to 2025 and establishment of renewable energy and credit acquisition policies (<i>Monozukuri</i>)</li> <li>Examination of potential alliances with multiple companies and industries to advance commercialization of initiatives (energy use)</li> </ul>	○
<b>Peace of mind</b>	<ul style="list-style-type: none"> <li>Promotion of Global Safety Package 3 (GSP3) sales, expansion of post-installation products, and planning of next-generation products and related business strategies (safety)</li> <li>Swift launch of Puremie in-vehicle air purifiers (comfort)</li> <li>Acquisition of multiple orders centered on solutions that respond to customer needs (support for working people)</li> </ul>	○
<b>Business practices</b>	<b>Providing customers with the best possible products and services faster than any other company</b>	
<b>Goal</b>	<b>Transform employee awareness and work processes to promote adherence to proper work processes founded on digital technologies and Core &amp; Customization Strategy*<sup>1</sup> at all workplaces</b>	
	<b>Successes and Initiative Examples</b>	<b>Evaluation</b>
<b>Core &amp; Customization Strategy</b>	<ul style="list-style-type: none"> <li>Development of business portfolio strategy for achieving growth based on both “green” and “peace of mind” principles and Core &amp; Customization Strategy</li> <li>Improvement of quality control and sales promotion efficiency for growth field products based on Core &amp; Customization Strategy</li> <li>Commencement of de-emphasis and discontinuation of designated products*<sup>2</sup> with fulfillment of supply obligations to customers as top priority</li> </ul>	○
<b>Digitalization</b>	<ul style="list-style-type: none"> <li>Promotion of accurate communications based on data and cultivation of culture of utilizing digital technologies to facilitate proper work processes</li> <li>Linkage of unconnected company data and automation and mechanization of processes previously performed by hand</li> <li>Laying of groundwork for adopting higher-value processes through digitalization and process reforms</li> </ul>	○

\*1 Strategy of planning standard (core) specifications that benefit all customers and customizable specifications for matching specific customer needs to swiftly supply products and services

\*2 Businesses and products designated for de-emphasis or discontinuation (including through business transfer) based on business portfolio strategies

○: Achieved; △: In progress

Personnel and organization that can respond to change	<b>Achieving a balance between the growth and happiness of all employees and efforts for enhancing our organizational capabilities to realize our strategies</b>
Goal	<ul style="list-style-type: none"> <li>• Improve engagement through reforms to employee awareness and behavior aimed at transforming business</li> <li>• Enhance organizational capabilities through recruitment, positioning, and cultivation of human resources based on a clear definition of the skills and number of human resources needed to enact business strategies</li> </ul>

Successes and Initiative Examples	Evaluation
<ul style="list-style-type: none"> <li>• Achievement of 70% rate of positive responses on employee engagement surveys (year-on-year improvement of 4 percentage points)</li> <li>• Optimal allocation of human resources based on human resource portfolio strategy, implementation of recurrent training programs for software engineers, and deployment of human resource development strategies targeting growth in focus areas</li> <li>• Internal deployment of new PROGRESS vision for human resources and organizations and start of employee awareness raising regarding three-year road map Measures: Acceleration of activities based on road map for realizing new vision targeting completion by March 31, 2024; bolstering of staff in priority areas, such as electrification, through recruitment, optimal positioning, and development of human resources</li> </ul>	△

Human Capital, Message from the Chief Human Resources Officer P65-67

Finance	<b>Establishing a structure resilient to change</b>
Goal	<b>Lower the break-even point to 70% or less by drastically improving efficiency via business portfolio and work process reforms for realizing principles of “green” and “peace of mind”</b>

Successes and Initiative Examples	Evaluation
<ul style="list-style-type: none"> <li>• Reduction of the break-even point by 6 percentage points by cutting approximately ¥91.0 billion worth of costs over two years</li> <li>• Break-even point of 74% on March 31, 2022, despite deterioration of operating environment Measures: Launch of the Response Capabilities Enhancement Project in fiscal 2023 to reform cost structures and allow for more flexible responses to operating environment deterioration in order to lower the break-even point to 70% or less; reduction of costs and transfer of costs to customers in order to overcome challenging operating environment in fiscal 2023</li> </ul>	△

Financial Capital, Message from the Chief Financial Officer P57-64

## Message from an Executive Vice President

### Creation of New Value Based on Principles of “Green” and “Peace of Mind”

The founding spirit of “provide quality products and services” forms the basis for DENSO’s quality philosophy. Despite the commitment to quality this indicates, a major quality-related issue occurred as a result of our prioritizing quantitative indicators like sales and profit. Recommitting ourselves to quality, we enacted the DENSO Revolution Plan “Reborn21,” based on which we are reforming our awareness and behavior in line with DENSO’s principles of “green” and “peace of mind.” Through this plan, we are dedicated to achieving results that are apparent in the defined indicators by thoroughly examining our philosophy and approach toward quality, incorporating initiatives for addressing social issues into our strategies while achieving business sustainability, and popularizing DENSO’s products and services.

Specific benefits of our activities in this regard include the start of business portfolio reorganizations based on our philosophy and the entrenchment of comprehensive planning for defining conditions for customers and practices using the latest digital tools to improve quality. These advancements were achieved through a concerted effort to reform our corporate culture. As a result, we have seen improvements in the quality of delivered and on-market products, which has led to our receiving quality awards from companies around the world. In terms of finances, these improvements have lowered our break-even point.

When it comes to creating value that inspires customers and society, nothing is more important than our people. I therefore hope to contribute to customers and society by making sure that DENSO is always a company at which employees can use their time to help shape a more exciting future for society and utilize their innovative ideas and refined sensibilities.



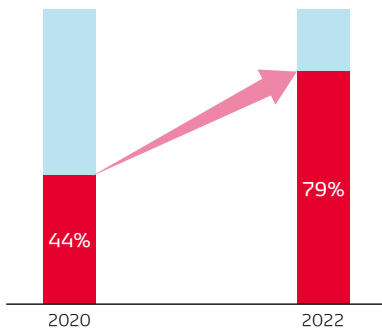
**Yukihiro Shinohara\***  
Executive Vice President, Representative Member of the Board

\* Oversaw and promoted reforms to employee awareness and the corporate constitution as Chief Corporate Revolution Officer over the period from June 2020 to March 2022

## Raising of Employee Awareness

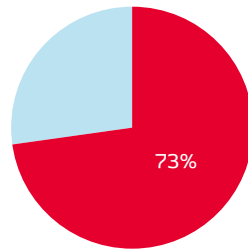
The Company's employee surveys are used as a means of guiding changes seen in awareness among employees as a result of initiatives under "Reborn21." The 2022 survey revealed a change in employee behavior with regard to quality awareness along with a progressive individual-level shift toward work attitudes that are more conducive to transforming DENSO into a company with even higher value.

Ratio of Employees Pursuing Transformation



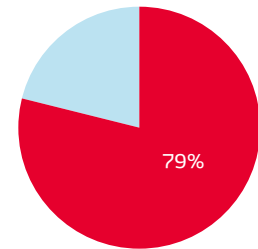
■ Employees pursuing transformation

Ratio of Employees Stating That They Act with the Intent of Contributing to Customers and Society



■ Employees stating that they act with the intent of contributing to customers and society

Ratio of Employees Experiencing Personal Rise in Quality Awareness



■ Employees experiencing personal rise in quality awareness

## Examples of Global Initiatives

### Restarting as a Hub for CASE—Promoting Quality Enhancements, Factory Reforms, and DX & Organizational Integration

DENSO Manufacturing Tennessee, Inc. (DMTN), our largest manufacturing base in the United States, launched the Reborn21 Project Team, which promotes activities focusing on 1) reestablishing quality foundation, 2) implementing swift factory reforms, and 3) promoting DX and organizational integration. With regard to quality, the Reborn21 Project Team created open working environments that incorporate real associates' voices and feedback. In addition, the team enacted rigorous countermeasures to prevent defective products from reaching the customer. For factory reforms, the team was able to launch 35 new production lines for CASE products over a three-year period through the swift reorganization of DMTN's production structure. In terms of the integration of DX and organizations, the team integrated the organizations of individual business units and factories into one Companywide organization and reduced duplicate functions and repetitive work processes through the expansion of DX. As a result of the Reborn21 Project Team's activities, which brought together all DMTN associates, DMTN was able to improve competitiveness through fixed cost reduction and a break-even point of 2.7%. Through the promotion of Reborn21, DMTN was able to restart itself as a North American hub for CASE that can respond to the needs of customers and society and pursue the ideals of "green" and "peace of mind."

### Promoting the *Bok Noi Dai Mai* (Let Me Hear Your Voice) Project\*—Collecting Over 80,000 Proposals for Improvements

Our Thai manufacturing base, SIAM DENSO MANUFACTURING CO., LTD. (SDM), has been promoting improvement efforts to realize a more flexible and robust operating structure. With a focus on changes in the future business environment, such as the decline in production of internal combustion engines, these efforts have aimed to transform SDM into a company that can generate profits even if production volumes fluctuate. As the COVID-19 pandemic began to hit Thailand in 2020, SDM saw the changes amid the pandemic as a unique opportunity to accelerate its improvement efforts and thereby launched the *Bok Noi Dai Mai* project in April 2020, which involved the participation of all employees in improvement activities. Under the *Bok Noi Dai Mai* project, SDM formed numerous teams that brought people together from various workplaces, and these teams came up with ideas for improvements one after the other by leveraging the individual expertise of each team member. In only two months upon its launch, the project was able to collect over 80,000 proposals for improvements.



The activities of the *Bok Noi Dai Mai* project helped foster an awareness among SDM employees that they are the ones who can make their workplace better. As a result, SDM was able to realize structural reforms with cost benefits, including the reduction of ordinary fixed costs, totaling roughly ¥1.0 billion.

\* The *Bok Noi Dai Mai* project was named after a hit song of the same title by the Thai female star singer NANTHIDA, who was popular in the 1990s.



## Business Portfolio Transformation for Realizing Principles of Green and Peace of Mind

### Optimization of Business Portfolio

In fiscal 2022, DENSO began conducting business portfolio optimization initiatives for maximizing the value of “green” and “peace of mind.” As one facet of these initiatives, we have been concentrating management resource allocations more on fields that contribute to earnings and to the exercise of management philosophy in order to better focus on the use of internal resources. As a result, some businesses have been designated for de-emphasis or discontinuation. However, we also recognize that we have a responsibility to supply our customers, and it is therefore important to take a multifaceted approach toward examining how best to de-emphasize or discontinue designated businesses.

### Transfer of Type III Alternator Business

A step ahead of Companywide reforms, the Electric Components Business Unit, which is heavily impacted by the electrification trend, decided to transfer its type III alternator business. Demand for type III alternators remains strong, largely among customers in the agricultural and construction equipment fields. Nevertheless, the decision to transfer these operations was made to address supply inconsistencies stemming from equipment aging and to strengthen our stance toward electrification. These operations were transferred to Chengdu Huachuan Electric Parts Co., Ltd., a partner with promising growth prospects, as seen in its proactive investment in automation equipment. We have judged that this partner is capable of carrying on DENSO's quality and service traditions and thereby contributing to customers.

### Process of Business Transfer

A major factor behind the decision to transfer the type III alternator business was the idea that it would be beneficial for customers, Chengdu Huachuan Electric Parts, suppliers, and DENSO. However, these benefits hinge on the ability to supply customers with type III alternators of the

same high quality that they expect. When DENSO transfers production operations, it is standard for the Company to dispatch employees to the site of the transfer in order to confirm the new production operations first hand. Examinations of the possibility of transferring this business came into full swing around the time of the COVID-19 pandemic. Chengdu Huachuan Electric Parts has a different corporate culture, not to mention operates in a different language, than DENSO. We therefore arranged more than 100 online meetings with this company, using diagrams, photographs, and videos to explain DENSO's quality traditions and ensure that they could supply customers with products of equivalent quality. During this process, we emphasized the importance of gaining the understanding of Chengdu Huachuan Electric Parts based on their perspective. The ongoing process of communication, designed to translate our experience and insight into words and explain the reasoning behind our designs, processes, and inspections, finally came to fruition in January 2022, when we were able to conclude a contract with Chengdu Huachuan Electric Parts for the transfer of one of our businesses. In fact, the type III alternator business was our first successful business transfer, and we are dedicated to building upon this success to accelerate Companywide business portfolio optimization efforts.



#### DENSO

Shift necessary resources to growth fields



#### Chengdu Huachuan Electric Parts

Acquire product and manufacturing expertise and sales channels



#### Customers

Continue to receive reliable supplies of products



#### Suppliers

Support new businesses

### Message from an Employee

#### Conveyance of DENSO's Commitment to Quality

This unprecedented business transfer was undertaken by a team of both new and veteran employees. We were thus able to utilize the proactive efforts of new employees as well as the experience, insight, and personal connections that veteran employees possess in the areas of design, production technologies, and quality assurance. Moreover, the team was rather small, allowing for swift decision-making. After the transfer, the type III alternators ceased to be DENSO brand products, but customers continued to use them nonetheless. This project was advanced with a sense of dedication to fulfilling our responsibilities toward the customers that have continued to trust DENSO over the years. Ensuring that this undertaking was beneficial to customers, Chengdu Huachuan Electric Parts, suppliers, and DENSO was no easy task, but I am confident that our efforts will contribute to the development of customers and of Chengdu Huachuan Electric Parts while also providing a good example to be followed by the people who are in charge of DENSO's next business transfer.



Hitoshi Irie  
Electric Components  
Reform Driving  
Department,  
Electric Components  
Business Unit

## 2 Mid-term Policy for 2025

After implementing various strategies and rebuilding our corporate foundation through efforts such as “Reborn21,” we find ourselves at a new starting line. From fiscal 2023, we will aim to become a company that is indispensable to society while cherishing the DENSO Culture that we have cultivated since our founding. To that end, we will strive to resolve social issues by creating value that is uniquely DENSO and in turn realizing business growth. To serve as a guideline for our 170,000 employees to achieve these aims, we have established the new Mid-term Policy for 2025.

### Prerequisites for Realizing the Goals of the Mid-term Policy for 2025

We aim to continue to be an organization of people who can think and act in an independent and self-reliant manner. Accordingly, we are prioritizing investment in human resources and strongly promoting *Hitozukuri*, which nurtures professionals with the ability to turn ideas into reality, and diversity and inclusion. Through such efforts we are working to establish a vibrant organization that is able to flexibly adapt to change.

### Five Pillars of Global Management

#### 1. Establish a Solid, Unshakable Business Foundation

Financial Capital, Risk Management P57-64, 114-115

Main Initiatives to Realize This Goal

Safety and Quality	Establish a sound safety and quality foundation that meets the expectations of society and earns the trust of our customers
Risk Management	Fulfill social responsibility by enhancing and implementing risk management initiatives so that we are able to immediately respond to changes in the external environment
Earnings	Establish a robust earnings structure by promoting reforms to our business portfolio

#### 2. Transform Workstyles through Digitalization with the Aim of Realizing World-First and World-Best Offerings

Manufacturing Capital, Intellectual Capital P68-71

Main Initiatives to Realize This Goal

1	Swiftly provide our stakeholders with the best possible value and experiences by maximizing our performance through the Core & Customization Strategy and data utilization
2	Pursue competitive reorganization of production structure, implement digital-twin technologies, and promote automation, thereby transforming the landscape of our plants around the globe

#### 3. Transform Business Structure by Achieving Growth and Promoting De-emphasis and Discontinuation in Collaboration with the Industry and Our Business Partners

Manufacturing Capital, Intellectual Capital, and Overview by Product P57-64, 70-71, 81-97

Main Initiatives to Realize This Goal

1	Rebuild core businesses and transition business portfolio toward BEV products
2	Accelerate efforts to de-emphasize and discontinue internal combustion technology and commercialize new energy businesses, thereby contributing to the realization of the DENSO Philosophy (carbon neutrality)
3	Promptly establish a structure for electrification that enables a flexible response to diversifying customers' needs and realize steady sales expansion and growth
4	Fully strengthen electronic and software technologies in an effort to contribute to the ideals of green and peace of mind and realize business growth

#### 4. Lead the Industry in Becoming Carbon Neutral

Strategies for Green and Peace of Mind P50-55

Main Initiatives to Realize This Goal

1	Transition to globally competitive, carbon-neutral plants through the utilization of innovative energy-saving technologies
2	Realize stable long-term procurement of renewable energy at a low cost
3	Develop energy businesses together with robust business partners

## 5. Achieve Business Growth through the Provision of Products and Solutions in New Fields

Materiality, Intellectual Capital P.40-41, 70-71

### Main Initiatives to Realize This Goal

1	Promote the development and practical application of cutting-edge technologies that underpin the digital-twin society
2	Create new value by further refining and combining our technologies while establishing growth scenarios based on popularizing our technologies throughout society
3	Establish efficient and flexible workstyles that cater to new business models and establish non-financial KPIs



### Aim

By promoting efforts toward the five pillars of global management through the collective wisdom and strengths of our 170,000 employees around the world, we have established various aims for DENSO going forward.

Green	Lead the industry by realizing an environmentally neutral manufacturing industry, thereby creating a sustainable society		Mobility products Energy use	<b>Carbon neutral by 2035</b> <b>Products: 50% reduction in CO<sub>2</sub> emissions compared with fiscal 2021</b> <b>Energy use: 50% reduction in CO<sub>2</sub> emissions compared with fiscal 2021</b> <small>Base value: CO<sub>2</sub> emissions from mobility products in fiscal 2021</small>
			Monozukuri	<b>Carbon neutral without the use of carbon credits by 2035</b> <b>(Carbon neutral with the use of carbon credits by 2025)</b>
Peace of Mind	Safety	Realize a society without fatalities from traffic accidents		Eliminate fatalities from traffic accidents
	Comfort	Realize safe and secure air quality		Provide spaces with AQI* of less than 50 by 2025
New Businesses	Create new value by providing solutions that resolve social issues			Expand business and resolve issues in the domains of mobility, industry, and society

\* Air Quality Index (AQI): An index that determines air quality levels based on six atmospheric pollutants with the aim of curtailing harmful substances in the air

### Important Milestones for Realizing Our Aims (Fiscal 2026)

ROE: **10% or higher**      Operating margin: **10%**      Revenue: **¥6.7 trillion**  
 Revenue in the electrification domain: **¥1 trillion**  
 Revenue in the ADAS domain: **¥500.0 billion**



### 3 Strategies for “Green” and “Peace of Mind”

With the aim of contributing to the happiness of people, DENSO has been working to maximize the value it provides through its business activities in the fields of “green” and “peace of mind.” To that end, we have established medium- to long-term targets to accelerate the maximization of value in these fields and are promoting the following specific initiatives in order to achieve these targets.



#### Aiming to Become Carbon Neutral by 2035

We aim to realize carbon neutrality within our production activities in the not-too-distant future of 2035 by further promoting the environmental efforts in which we have engaged thus far. To make this ambition a reality, we are pursuing efforts in the three fields of “*Monozukuri* (manufacturing),” “mobility products,” and “energy use,” while making use of the Green Innovation Fund\* and other frameworks.

\* Green Innovation Fund: An initiative offered by the New Energy and Industrial Technology Development Organization (NEDO) to provide ongoing support to companies committed to achieving ambitious goals related to achieving carbon neutrality through the research, development, demonstration, and practical application of their technologies over the long term within the priority areas for which action plans have been established under the Green Growth Strategy

#### Monozukuri (Manufacturing)

**Aim: Realize complete carbon neutrality at our plants**

We will reduce CO<sub>2</sub> emissions by utilizing renewable energy such as solar power and enhancing the efficiency of our manufacturing process. In addition, we aim to realize complete carbon neutrality at our plants, without the use of carbon credits, by capturing the CO<sub>2</sub> emitted in the production process and reusing it as energy.

Specific Initiatives	Target for 2035
<ul style="list-style-type: none"> <li>At our plants, rigorously engage in energy-saving activities and promote the use of renewable energy by promoting in-house power generation through reforms to our production and supply structure</li> <li>Seek to achieve carbon neutrality in 2025 by offsetting the CO<sub>2</sub> emitted from electricity-derived energy through the procurement of renewable energy and offsetting the CO<sub>2</sub> emitted from gas-derived energy through the use of carbon credits</li> <li>Realize carbon neutrality at our plants by 2035 and work to expand and support activities geared toward carbon neutrality throughout the supply chain</li> </ul>	Achievement of complete carbon neutrality at our plants
	<b>Current level of achievement</b>
	CO <sub>2</sub> from plants: 1.91 million tons (5% reduction globally compared with fiscal 2021*) * Adjusted to pre-pandemic levels

#### Mobility Products

**Aim: Contribute to the electrification of cars to reduce CO<sub>2</sub> emissions to the greatest extent possible**

We will help popularize HEVs, BEVs, FCEVs, and other electrified vehicles (xEVs) by advancing products powered by electricity. 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.

Specific Initiatives	Target for 2025
<ul style="list-style-type: none"> <li>Centered on driving systems and thermal systems, promote farsighted technological development in all facets of mobility, from HEVs, BEVs, and FCEVs through to eVTOL (all-electric vertical take-off and landing) aircraft, thereby realizing energy management that connects cars and other forms of mobility with society</li> <li>Apply electrification technologies to the new field of air mobility. At the same time, return the high-output, high-efficiency, and ultra-lightweight technologies acquired through this effort to the automotive industry</li> </ul>	Revenue from electrification domain ¥1 trillion
	<b>Current level of achievement</b>
	Revenue from electrification domain ¥580.0 billion

#### 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.

Specific Initiatives	Target for 2035
<ul style="list-style-type: none"> <li>Develop and commercialize batteries that store fluctuating or excess renewable electricity, hydrogen manufacturing technologies, and fuel conversion technologies. Make full use of renewable energy and further contribute to its expanded introduction</li> <li>Realize technologies that can reuse energy by capturing CO<sub>2</sub> emitted from industry and CO<sub>2</sub> in the atmosphere at the necessary locations, then solidifying said CO<sub>2</sub> and converting it into resources, thereby reducing CO<sub>2</sub> emissions in society as a whole</li> </ul>	Revenue from commercialization of renewable energy ¥300.0 billion
	<b>Current level of achievement</b>
	Selected as a Green Innovation Fund project (Large-scale verification test of CO <sub>2</sub> capture technologies)



### Aiming to Become a Leading Company That Provides “Peace of Mind” to Society

For a company like DENSO, which aims to contribute to the happiness of people, part of our mission is to provide peace of mind to society by resolving social issues through our business activities. This section introduces the three pillars of DENSO's contributions to the field of “peace of mind,” through which we aim to become a leading company that provides peace of mind to society.

#### Elimination of Fatalities from Traffic Accidents

**Aim:** Popularize safety products through efforts focused on “depth” and “width,” thereby realizing free mobility without fatalities from traffic accidents

With the aim of eliminating fatalities from traffic accidents, we are promoting efforts under a two-pronged approach focused on “depth,” which involves reaching the cutting edge of technology, and “width,” which involves realizing the widespread adoption of safety products in a large number of cars. For “depth,” we are further evolving our safety products and working to have them adopted in a greater number of advanced mobility fields. For “width,” we are working to realize attractively priced safety products and enhance our lineup of retrofitted products.

Specific Initiatives	Target for 2025
<ul style="list-style-type: none"> <li>Respond to various accident situations and strive to prevent accidents through not only 360-degree sensing but also in-vehicle sensing and vehicle–infrastructure linkages</li> <li>Fully leverage AI technologies to predict “unseeable danger” and provide such information to the driver, thereby ensuring the driver avoids hazardous situations</li> <li>In tandem with the evaluation of ADAS, expand lineup of retrofitted products that can be applied to already-sold vehicles in an effort to provide value that responds to various situations, vehicle types, and needs</li> </ul>	Revenue from the ADAS domain ¥500.0 billion
	<b>Current level of achievement</b>
	Revenue from the ADAS domain ¥360.0 billion

#### Creation of Comfortable Spaces

**Aim:** Enhance relevant technologies for creating peaceful, comfortable spaces

Following the progression of automated driving, there has been a growing need for providing cars not simply as a means of transportation but also as a “private space that enables mobility.” To that end, DENSO seeks to create comfortable spaces by evolving the four environments within vehicles: temperature, sound, air, and visibility.

Specific Initiatives	Target for 2025
<ul style="list-style-type: none"> <li>Innovate purification and sensing technologies to eliminate viruses and visualize toxic substances, thereby realizing safe and secure air quality</li> <li>Refine technologies to create and expand comfortable interiors in passenger vehicles and public transportation vehicles</li> </ul>	Popularize in-vehicle general-purpose products
	<b>Current level of achievement</b>
	Investment in Japanese market for commercial products

#### Support for Working People

**Aim:** Draw on the technologies we have cultivated in the mobility domain to establish a society where people are supported and their potential is nurtured

One major social issue is the significant decline in the workforce in various industries. To address this issue, DENSO will draw on the technologies it has cultivated in the mobility domain, such as automation technologies and ICT, to realize a society where all people are supported and can take on new challenges with peace of mind.

Specific Initiatives	Target for 2030
<ul style="list-style-type: none"> <li>In the agricultural field, contribute to the stable and secure supply of food by resolving issues throughout the food value chain</li> <li>In the logistics field, provide ultra-high-quality comprehensive solutions that cover everything from framework improvement through to the rationalization of entire factories</li> <li>For plant operations and factory automation (FA), combine core technologies such as robots and sensors with automation technology and improvement know-how in order to provide systems and products catered to the front lines</li> </ul>	Revenue from the agricultural, logistics, and plant operations/FA fields ¥300.0 billion
	<b>Current level of achievement</b>
	Gradual progress in business expansion

## Main Results of Our Strategies Related to Green and Peace of Mind in Fiscal 2022 and Beyond

Since our founding, we have been working to maximize the value of green and peace of mind, and efforts to do so have been further accelerated under “Reborn21.” In this section, we look back on the steady results we achieved with our initiatives over the course of fiscal 2022.

2021

### Green

We are striving to reduce CO<sub>2</sub> from our *Monozukuri* activities and develop and popularize mobility products that contribute to the electrification of automobiles.

#### Monozukuri

##### Commencement of Verification Test for CO<sub>2</sub> Circulation Plant

With the aim of achieving net-zero emissions from our plants, we commenced verification tests for a CO<sub>2</sub> circulation plant, which is a facility designed to capture and recycle CO<sub>2</sub>.



#### Mobility Products

##### Alliance with Honeywell

Together with Honeywell International Inc., we are promoting the development of electric propulsion systems for aircraft. Through this joint development, we will work to apply DENSO's electrification technologies in the field of air mobility.



### Peace of Mind

We are striving to develop safety products, provide services that realize comfortable spaces, and utilize the technologies we have cultivated in the mobility domain.

#### Creation of Comfortable Spaces

##### Development of Puremie Air Purifier That Realizes Safe In-Vehicle Environment

Our newly developed air purifier Puremie eliminates viruses in the air environment and visualizes air purity status through an air cleaning device, which is equipped with a high-performance filter, and a monitor that measures air purity. In this way, Puremie offers passengers peace of mind with regard to in-vehicle air quality.



Air purifier



Air quality monitor

#### Support for Working People

##### Development of the Compact Mobile Refrigerator D-mobico

Together with Yamato Transport Co., Ltd., we have developed D-mobico, a compact, light-weight and portable refrigerator. D-mobico is able to flexibly respond to various transport needs and helps improve the fuel performance and reduce the CO<sub>2</sub> emissions of delivery vehicles.



### Management Foundation

We are working to bolster our management foundation to underpin efforts to maximize the value of green and peace of mind.

#### Selection as a Green Innovation Fund Project

Among the technologies we are developing to realize carbon neutrality, technologies being developed under the themes of “motor systems for mobility,” “CO<sub>2</sub> separation and capture,” and “next-generation power semi-conductors” have been selected as Green Innovation Fund projects.

#### Issuance of Sustainability Bonds for the First Time

We issued sustainability bonds for the first time in order to strengthen our sustainability management. The funds raised through these bonds will be allocated to various investments in electrification, advanced safety, and automated driving.





For more details, please see the "Newsroom" section of our corporate website.  
<https://www.denso.com/global/en/news/newsroom/>



## 2022

### Mobility Products

#### Bolstering of Production Structure for Products Powered by Electricity

We started to manufacture inverters in 2005, and since then, our inverters have been praised by our customers for their quality, stability, and high level of performance. As of December 2021, we have produced a cumulative total of 20 million inverters on a global scale. To further promote the global shift to electrification in the future, we are working to bolster our production structure for inverters in Japan, China, and North America. Going forward, we will establish manufacturing lines in such regions as Europe and India with the aim of producing 12 million inverters a year starting from 2025.

### Monozukuri

#### Receipt of Energy Conservation Grand Prize Award for 12 Consecutive Years

We received the Energy Conservation Center Chairman's Prize in the Examples of Energy Conservation Division of the Energy Conservation Center, Japan (ECCJ)'s Award Program, in recognition of our efforts to reduce the amount of steam used to heat pure water for the cleaning of semiconductors through the reuse of plant waste heat.



### Mobility Products

#### Collaboration with USJC in the Manufacture of Automotive Power Semiconductors

We have agreed to collaborate with United Semiconductor Japan Co., Ltd. (USJC), a subsidiary of global semiconductor foundry United Microelectronics Corporation, in the production of power semiconductors that are needed for electric vehicles (EVs). Through this collaboration, we will realize the stable procurement of semiconductors, which in turn will help accelerate the transition to electrification.

### Mobility Products

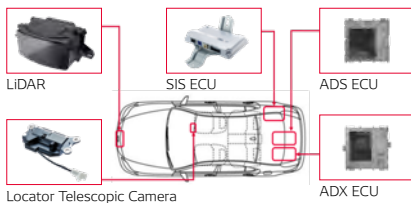
#### Adoption of DENSO Electrification Components in the Toyota bZ4X and Other Vehicles

We have developed new products that help enhance the practicality of EVs in such ways as increasing driving distance, shortening charging time, and extending battery life. These new products have been adopted in the Toyota bZ4X and other vehicles.

### Elimination of Fatalities from Traffic Accidents

#### Development of Products for the Advanced Driver Assistance Technology Advanced Drive

We have developed safety products that realize advanced driver assistance features, which help give passengers peace of mind and enhance the safety performance of vehicles. These products have been adopted in the all-new Toyota MIRAI.



### Elimination of Fatalities from Traffic Accidents

#### Enhancing Performance and Expanding Functionality of the World's Smallest Stereo Vision Sensor

Compact stereo vision sensors help enhance the safety of lightweight vehicles. To that end, we have developed the world's smallest stereo vision sensor and have successfully enhanced the sensor's performance and expanded its functionality while still keeping it available at a low price.



### Elimination of Fatalities from Traffic Accidents

#### Development of the Global Safety Package 3 Product for Accident Prevention and Safety Systems

We have developed Global Safety Package 3 (GSP3), which improves the safety of vehicles by giving them high sensing capability of their surroundings. We developed this product with the aim of expanding the settings in which accident prevention and driver assistance systems are used and of realizing a compact safety product that can be offered at a low price.

### Support for Working People

#### Promotion of DX in the Healthcare Industry with the Aim of Improving the Quality of Medical Treatment

By utilizing OPeLiNK®, a platform developed by DENSO to integrate information from surgery equipment, we are participating in a platform business that promotes the digital transformation (DX) of medical education and hospital operations.

#### Agreement on the Transfer of DENSO's Fuel Pump Module Business to Aisan

DENSO has agreed to transfer its fuel pump module business to Aisan Industry Co., Ltd., with a view to enhancing the competitiveness of both companies in the powertrain domain.

#### Transfer of Type III Alternator Business to Chengdu Huachuan Electric Parts

By transferring the type III alternator business to Chengdu Huachuan Electric Parts Co., Ltd., we aim to continue to fulfill our responsibility of supplying our customers. At the same time, we will promote the reshuffling of our business portfolio through collaboration with our business partners.

#### Investment in Semiconductor Manufacturer JASM

We have acquired a minority stake in Japan Advanced Semiconductor Manufacturing, Inc. (JASM), which handles the manufacture of semiconductors. Through this acquisition, we aim to realize the stable procurement of in-vehicle semiconductors over the medium to long term.


**TOPIC: Green**

**Promotion of a Business Model That Contributes to the Carbon Neutrality of Automobiles, Industry, and Society at Large**


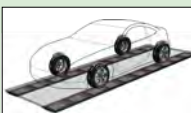


Amid the rising interest in environmental issues, DENSO is working to not only help create eco-friendly automobiles but also go beyond the framework of automobiles to realize carbon neutrality in the manufacturing industry and in society as a whole, in collaboration with its various partners in the industry. To that end, we need to adopt a bird's-eye view of energy use to ascertain energy usage in individual automobiles, in the industry, and in society at large and implement energy management practices to ensure such energy is used efficiently. We will therefore aim to create businesses that realize carbon neutrality across society by applying, in a greater social context, the automotive and industrial technologies that we have cultivated since our founding.

**SOCIETY**

**Carbon Neutral**


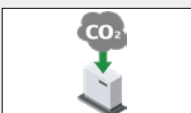




Examples of areas of contribution and future technologies

			
Electric propulsion systems for aircraft	Non-contact charging systems	Traceability technologies	Household charge/discharge devices

**INDUSTRY**



Examples of areas of contribution and future technologies

			
CO <sub>2</sub> circulation plants	Artificial photosynthesis	Lean automation	

**AUTOMOBILES**



**Software**  
Functioning as the brain providing instructions

Examples of products

	
Electronic platforms	In-vehicle edge computing technologies



**Mechanical parts**  
Functioning as the body that follows instructions

Examples of products

	
Motor generators	Car air-conditioning units

**Electronics**  
Functioning as the nerves and blood vessels that communicate instructions and transfer energy

Examples of products

	
Inverters	Battery ECUs



4. Provide new value through energy management and new businesses that form links between automobiles, industry, and social infrastructure (society), by refining the technologies we have cultivated in automobiles and industry and applying them to social domains
3. Expand carbon-neutral plants, together with our partner companies, through the use of our energy utilization technologies and other measures
2. Realize carbon neutrality at our plants through the utilization of innovative energy-saving technologies and renewable energy and the introduction of green energy
1. Realize optimized energy management for automobiles by leveraging our system-building capabilities based on the three-pronged approach of mechanical parts, electronics, and software

**TOPIC: Peace of Mind**

**Development of Global Safety Package 3 to Further Advance and Popularize Safety Products**

To realize a society without fatalities from traffic accidents, which we adopted as part of our strategies related to peace of mind, we need to further advance safety products and equip vehicles with cutting-edge safety technologies. We also need to develop products that are attractive in terms of price so that we can realize the practical application of safety products in an even greater number of vehicles.

Global Safety Package 3 (GSP3) was developed with the aim of expanding the settings in which accident prevention and driver assistance systems are used and of realizing a compact safety product that can be offered at a low price.

**Enhancement of Vehicle Safety Performance**

Our Global Safety Package (GSP) combines information from a millimeter-wave radar sensor, which detects the shape of objects on the road, such as vehicles and guard-rails, using radio waves, with information from a vision sensor, which uses a camera to detect the environment ahead of the vehicle, in an optimized manner. By doing so, these systems enable safe driver assistance. The newly developed GSP3 represents the third generation of the GSP series.

The vision sensor used in GSP3 adopts a wide-angle lens and a high-resolution imager. This doubles the area that the sensor is able to detect while maintaining the product size and price through circuit optimization. Additionally, the vision sensor makes use of new awareness logic that enables it to achieve such features as detecting additional objects and recognizing direction.

The millimeter-wave radar sensor makes use of a simple product design, which helps reduce numerous components to one-fifth of the size of conventional components and doubles the range of detection (of oncoming traffic), thereby reducing the overall size of the radar sensor by 43%. Furthermore, the millimeter-wave radar sensor has improved the product's functionality, allowing it to separate two objects and detect them individually based on their difference in speed and thereby enhancing the detection performance to a level where the radar sensor is able to distinguish between pedestrians and bicycles.



Millimeter-wave radar sensor

Vision sensor

As a result of this improved functionality, GSP3 is able to respond to potential accident scenarios, such as errantly turning left or right at intersections or colliding with oncoming traffic, that conventional safety products cannot. In fact, GSP3 is now able to cover approximately 70% of accident scenarios, as opposed to the roughly 40% covered by the previous GSP.

**Efforts as a Comprehensive Systems Supplier**

As a comprehensive systems supplier that handles everything from hardware to software, we gather together experts in each field of systems we handle to identify issues from their respective perspectives and examine measures to resolve such issues. Through this approach, we were able to successfully develop GSP3.

Going forward, we will promote technological development pertaining to advanced driver support so that we can realize mobility that is safe and free for all people, starting with drivers and pedestrians.

**Message from an Employee**

**Aiming for the Ambitious Target of Eliminating Fatalities from Traffic Accidents**

Without the cooperation of relevant parties, including our customers and suppliers, we could not have realized the development of GSP3 on our own. Thanks to the results of all relevant parties working as one team, a vehicle of one of our customers equipped with GSP3 won the five-star rating in the latest Euro NCAP safety testing. This rating demonstrates GSP3's high level of technological capabilities. We will continue to take on the challenge of developing cutting-edge technologies with the aim of delivering an even more comfortable mobility society to our customers around the world and of eliminating fatalities from traffic accidents.



Top left photo insert: Yoshiyuki Kato, AD&ADAS Engineering Division 1  
 From left: Sho Okabe, AD&ADAS Engineering Division 1; Keisuke Izumi, Hideki Tsukuda, AD&ADAS Engineering Division 2; Hideaki Tanaka, Kohei Yamamoto, AD&ADAS Systems Engineering Division; Shogo Matsunaga, Takumi Uematsu, J-QuAD DYNAMICS





# Foundation for Creating New Value

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# Financial Capital

## Outline of Efforts to Strengthen Financial Capital

In fiscal 2022, DENSO will implement management with an awareness of capital costs as it works to create corporate value under a renewed financial strategy. Under this new strategy, DENSO targets ROE of 10% or higher by fiscal 2026 with a view to expanding its equity spread (ROE – Cost of shareholders' equity) over the medium to long term. To that end, DENSO will pursue the following four initiatives for creating corporate value: (1) reinforce profit structure, (2) reduce low-profit assets, (3) improve capital structure, and (4) engage in dialogue with markets.

### Characteristics of DENSO's Financial Capital (Fiscal 2022 results)

Equity ratio attributable to owners of the parent company <b>57.8%</b>	Dividend on equity (DOE) <b>3.1%</b>	Weighted average cost of capital (WACC) <b>6.2%</b>
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### KPI Targets for Fiscal 2026

#### (1) Reinforce profit structure

ROE: **10% or higher** Operating margin: **10%** R&D expenditure: **¥450.0 billion** Capital expenditures: **¥350.0 billion**

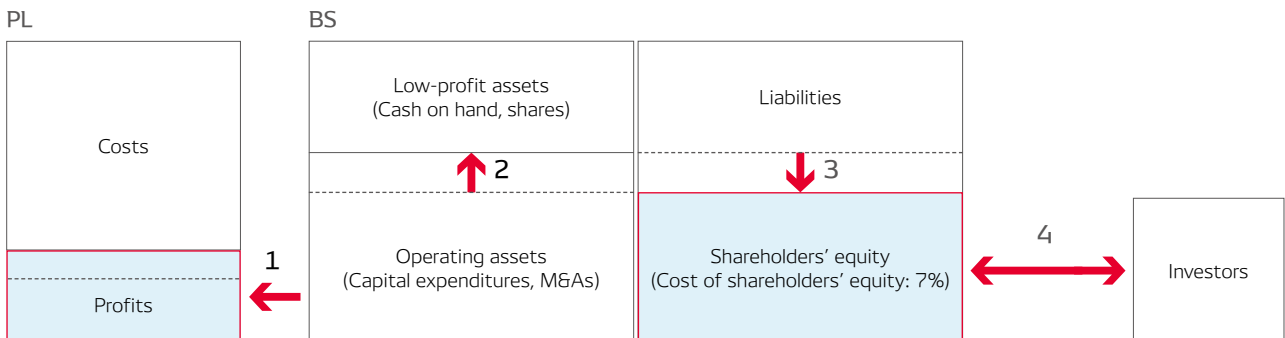
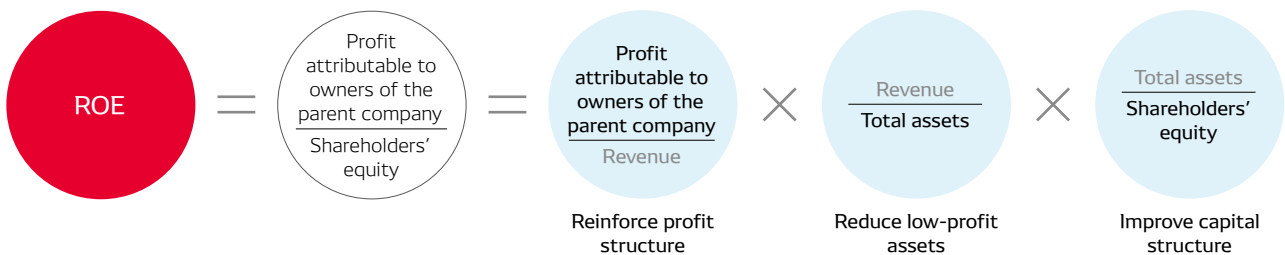
#### (2) Reduce low-profit assets

Cash on hand compared with monthly turnover: **1.0 month** **Further reduction** of cross-shareholdings

#### (3) Improve capital structure

Shareholders' equity ratio: **50% or more** DOE: **3.0% or more** **Flexible acquisition** of treasury stock

### Initiatives for Creating Corporate Value



Message from the Chief Financial Officer

## Enhancing Our Ability to Continuously Create Corporate Value through Successful Implementation of Financial Strategies

**Yasushi Matsui**  
Chief Financial Officer (CFO)  
Member of the Board of Directors,  
Senior Executive Officer

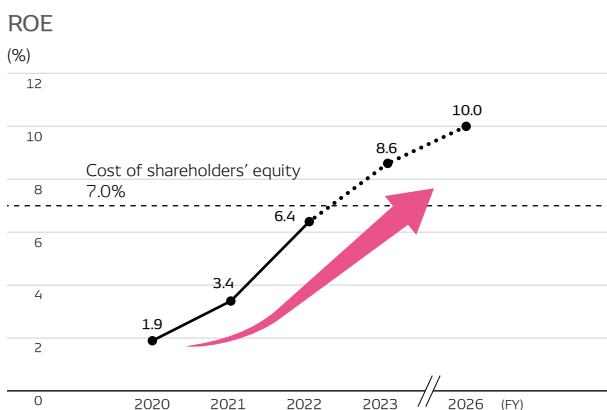


### Pursuit of Growth and Corporate Value Creation

In fiscal 2022, consolidated revenue rose 11.7% year on year, to a new record high of ¥5,515.5 billion, and operating profit was up 120.0%, to ¥341.2 billion. Factors behind this strong performance included the recovery of sales from the impacts of the COVID-19 pandemic, the benefits of sales promotions for electrified and ADAS products, and profitability improvements achieved through efforts to reform our profit structure advanced under “Reborn21.” These factors outweighed the detractors from adverse operating environment trends including a drop in automobile production in the wake of global semiconductor shortages and higher prices for electronic and other components, logistics, materials, and energy.

We expect to continue to face a challenging operating environment in fiscal 2023 in the midst of semiconductor shortages and inflation. Regardless of these challenges, we will operate our business in a lean and flexible manner. This will be accomplished by continuing to develop and promote appealing products while seeking to improve profitability through the enhancement of the robust corporate constitution fostered under Reborn21. Another measure toward this end will be to bolster our responsiveness to changes in the operating environment, which I will talk about a little later on.

Moreover, DENSO has set the new Mid-term Policy for 2025, which defines goals to be accomplished by fiscal 2026. This policy clarifies our intent to take on an



Note: The graph represents our forecast as of July 29, 2022.

extensive reorganization of our business portfolio. Through this reorganization, we will seek to solidify earnings foundations in order to achieve return on equity (ROE) of 10% or higher and an operating margin of 10% in fiscal 2026. To accomplish these targets, we launched a new financial strategy in fiscal 2022 that emphasizes managing capital costs to maximize ROE through corporate value creation (the creation and expansion of genuine equity spread). In fiscal 2022, ROE was 6.4%, up 3 percentage points year on year. As of July 29, 2022, we expect this figure to rise to 8.6% in fiscal 2023, an amount that will surpass cost of shareholders' equity. I feel that the frameworks for continuously generating value at DENSO are taking shape. Accordingly, we will continue to move forward with the four pillars of our new financial strategy—(1) reinforce profit structure, (2) reduce low-profit assets, (3) improve capital structure, and (4) engage in dialogue with markets—in order to ensure we accomplish the targets of the Mid-term Policy for 2025. I would now like to explain some of the concrete initiatives we are implementing toward this end and the progress of these initiatives.

### 1. Reinforce Profit Structure—Acceleration of Business Operation Focusing on Expansion and Reinforcement through Entrenchment of ROIC-Minded Management

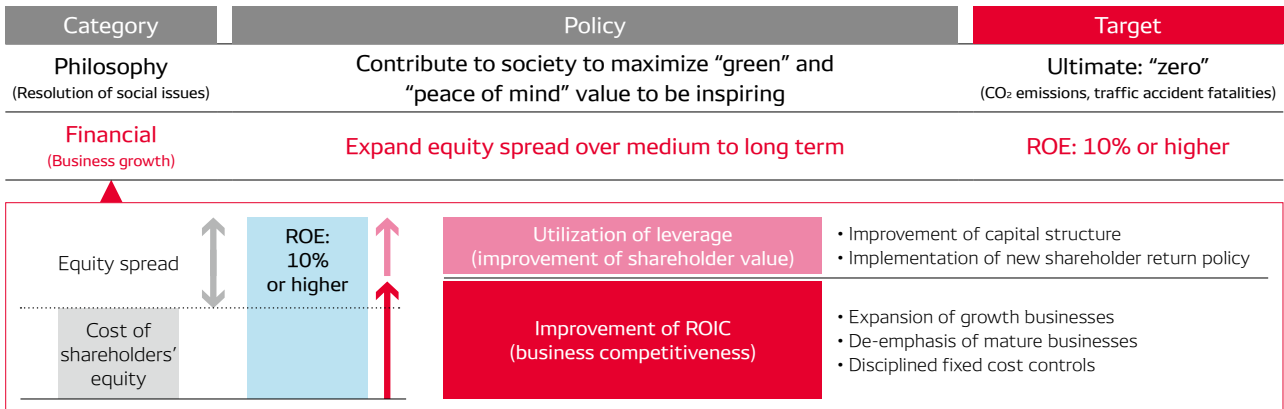
#### (1) ROIC-Minded Management for Heightening Corporate Value

##### A. Start of ROIC-Minded Management

DENSO has introduced ROE among the key performance indicators (KPIs) for which it has set targets alongside prior financial KPIs like revenue and operating profit. This move was made to accommodate a shift toward management emphasizing capital cost and corporate value under the new financial strategy launched in fiscal 2022 and to respond to changes in the operating environment and in the expectations of stakeholders.

The target for ROE has been set at 10% or higher to facilitate the creation and expansion of genuine equity spread. Considerations for setting this target included the fact that the Company's cost of shareholders' equity is currently around 7% and that the minimum level expected by society, as indicated in documents like *Ito Report 2.0*, is 8%.

To expand genuine equity spread, we will be taking



advantage of our leverage to accomplish objectives like improving our capital structures and enacting new shareholder return policies. At the same time, however, we realize that there is a need to heighten the competitiveness of our business in a manner that is not overly dependent on leverage if we are to continue creating value. Based on this belief, we commenced a full-fledged management approach that is mindful of return on invested capital (ROIC) in fiscal 2022.

With a focus on the management KPI of ROIC, we will aspire to make management decisions for expanding growth businesses, de-emphasizing mature businesses, and exploring new businesses to achieve continuous increases in corporate value.

### B. Entrenchment of ROIC-Minded Management

At DENSO, ROIC is more than just a management KPI; it is a tool for promoting changes in the behavior of employees.

We began rolling out an "ROIC tree" in fiscal 2022 that allows employees to clearly see the connection between management KPIs and their individual improvement activities. In addition, our in-house publications are regularly used to provide information, on a global basis, on the relationship between the improvement activities of individual employees and divisions and the enhancement of ROIC. Through these efforts, we are constantly working to foster awareness of ROIC.

In addition to such ongoing communication and awareness-raising activities by corporate divisions, we are also bolstering education for business planning departments and accelerating activities for conveying our ROIC-minded management via planning departments through the formulation and implementation of ROIC improvement initiatives based on the characteristics of the given business.

Furthermore, ROIC was introduced to complement operating profit as an indicator for determining the performance-linked compensation of members of the Board in fiscal 2023. To increase incentives for pursuing medium- to long-term improvements in corporate value, a restricted stock compensation plan was implemented in fiscal 2021. The addition of ROIC as an indicator for calculating compensation, meanwhile, is expected to strengthen the commitment to short-term results of senior management and to heighten their desire to increase ROIC and create value.

In this manner, we are advancing activities targeting everyone, from regular employees to senior management,

in order to further entrench the practice of truly ROIC-minded management for improving value.

## (2) Business Portfolio Reorganization for Boosting Earnings and Exercising Philosophy

### A. Pursuit of Sustainable Growth by Resolving Social Issues through Business

We view the "resolution of social issues through our businesses" as the bedrock of our management. With this as our foundation, we are pursuing our ultimate goal of "zero" in the fields of "green" and "peace of mind," by which we mean zero CO<sub>2</sub> emissions and zero fatalities from traffic accidents. Through our pursuit of this goal, we hope to inspire our stakeholders and thereby achieve ongoing improvements to our competitiveness. In the current uncertain operating environment, DENSO will seek to reorganize its portfolio to facilitate efforts to exercise its philosophy, accelerate its growth, and boost profitability in terms of ROIC. This is the approach we will take to continuously grow our value by protecting the environment, contributing to peace of mind, and inspiring stakeholders.

### B. Growth in the Electrification and Advanced Safety Areas of the CASE Domain

In the CASE domain (connected driving, autonomous driving, sharing, and electrification), DENSO prides itself on its role in and capacity for shaping the industry. We are particularly capable when it comes to the areas of electrification and advanced safety.

The global trend toward electrification is accelerating amid rising environmental awareness. DENSO built development and production systems in this area ahead of its competitors, and these systems have supported our progress in selling our products to overseas and other customers. In fiscal 2023, our eAxle inverter-equipped drive module was adopted, for the first time, for use in a customer's product through BluE Nexus Corporation. This development allowed us to achieve an aggregate total of 20 million inverter products, a feat never before seen among our competitors.

As for the field of advanced safety, we commenced mass production of Global Safety Package 3 in fiscal 2022 amid the rising needs for safety and peace of mind in mobility. This trend is evident among the growing social issues pertaining to increases in the number of accidents by senior citizens and ever more serious traffic congestion in urban areas.



Global Safety Package 3 is equipped with state-of-the-art technologies that contribute to “peace of mind” value by helping realize freedom in mobility with zero traffic accident fatalities through an increased range of applicability to accidents. In addition, this product helps make equipment smaller and reduce costs, thereby contributing to profits by supporting business growth and increases to earnings power.

Going forward, we will continue to pursue growth in these fields in order to maximize the value we provide in line with the principles of green and peace of mind.

### C. Strategy Positioning Semiconductors as Key Growth Devices

A sharp increase in semiconductor demand has been seen in recent years, resulting in supply instability. However, this situation has not changed the fact that semiconductors are key devices to the automotive industry, meaning that the evolution of semiconductor technologies and the reliability of semiconductor supplies will be imperative to the popularization of vehicles that contribute to green and peace of mind value. For this reason, DENSO is bolstering areas in the chain spanning from advanced technology development through to production systems that are easily overlooked, with a goal of contributing to the entire industry.

The development of advanced technologies in this area is being spearheaded by R&D subsidiary MIRISE Technologies Corporation. For production and supply, we have partnered with United Semiconductor Japan Co., Ltd., to develop a system capable of high-performance, high-efficiency production of Japan’s first 300-mm-wafer power semiconductors. In addition, we commenced investment in Japan Advanced Semiconductor Manufacturing, a subsidiary of Taiwan Semiconductor Manufacturing Company, Ltd., to construct a system for the stable supply of these devices.

DENSO has continued to make contributions to the environmental performance of automobiles with its

semiconductor technologies, as seen in the use of its power module equipped with a next-generation SiC device in the Toyota MIRAI. Together with our partners, we are committed to the ongoing reinforcement of development, mass production, and other systems.

### D. De-Emphasis and Discontinuation of Businesses

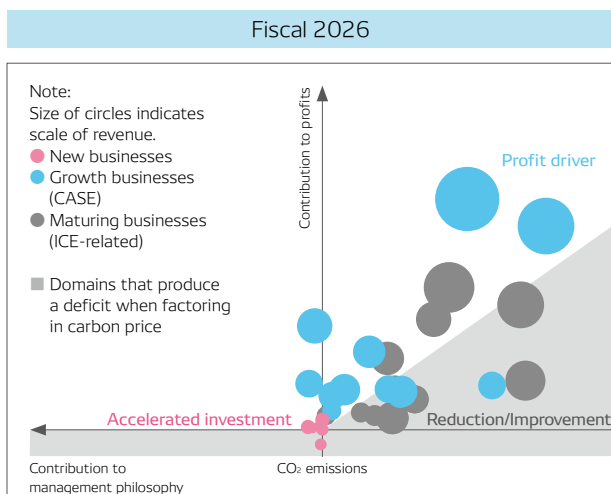
The reorganization of our business portfolio will require us to de-emphasize or discontinue certain businesses. When we think about the trust-based relationships we have built with customers thus far, it becomes easy to adopt a negative opinion of such undertakings, which can make it difficult for us to move forward.

However, it is important for us to take a forward-looking perspective toward the de-emphasis and discontinuation of businesses if we are to exercise our philosophy and achieve sustainable growth. For this reason, we began undertaking business transfers in fiscal 2022 with a sense of conviction while actively working to gain the understanding of customers.

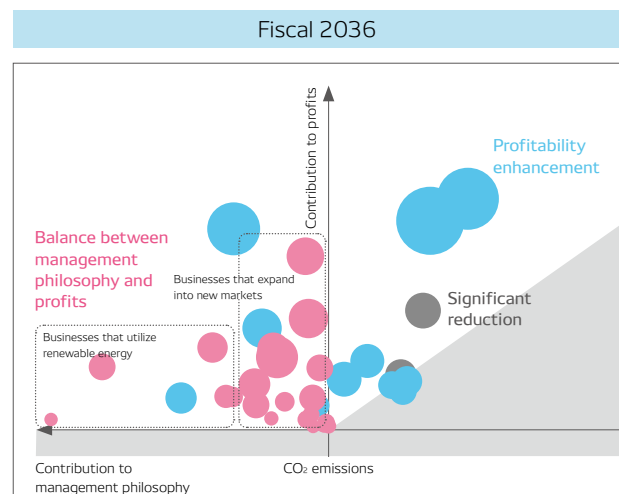
For example, we reached an agreement to transfer our fuel pump business to Aisan Industry Co., Ltd., in January 2022. Discussions with customers took place from the early stages of this business transfer to ensure that we did not betray the expectations of customers or of society through this move. Another such undertaking was the transfer of our type III alternator business to Chengdu Huachuan Electric Parts Co., Ltd. In this manner, we are making steady progress in de-emphasizing and discontinuing businesses.

Moreover, in fiscal 2023, we transferred some of the products from businesses designated to be de-emphasized or discontinued to the Powertrain Systems Business Group, an organization that has been playing a central role in these activities with regard to internal combustion engine products. This reorganization has allowed us to expedite decisions and better gain customer understanding in relation to

### Example of Reshuffling Our Business Portfolio

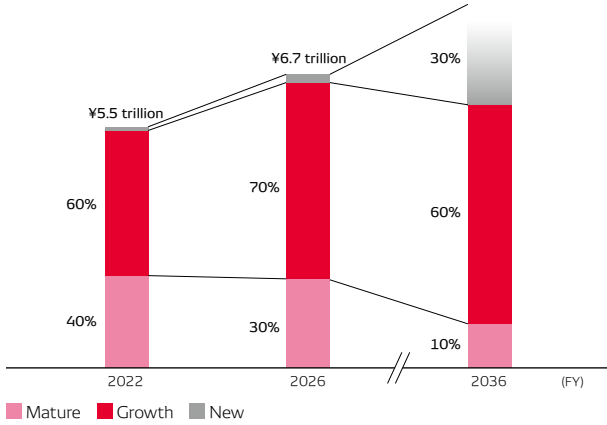


In addition to improving profitability by expanding businesses focused on CASE and reducing businesses focused on internal combustion engines (ICEs), we will work to create new markets that contribute to carbon neutrality.



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.

### Distribution of Sales Field



the de-emphasis and discontinuation of businesses under the guidance of a single organization.

We are also taking a committed approach toward consolidating regional production subsidiaries to optimize production and supply systems from a medium- to long-term perspective, a part of the de-emphasis and discontinuation of businesses. This commitment drives us forward in restructuring activities.

Looking ahead, the reorganization of our business portfolio, including reorganizing subsidiaries and transferring and withdrawing from businesses through coordination with partners, will be advanced with decisive speed.

### E. Creation of New Value

We are currently in a highly volatile operating environment that is presenting a plethora of new social issues. DENSO seeks to take preemptive action for contributing to the resolution of these social issues. To guide us in this undertaking, we have formulated theories regarding the social

issues that will emerge in 2035 based on megatrends projected leading up to 2050. These theories are shaping our efforts to explore new businesses based on our desire to contribute to the resolution of such social issues through activities in our business domains and through the use of our core competencies.

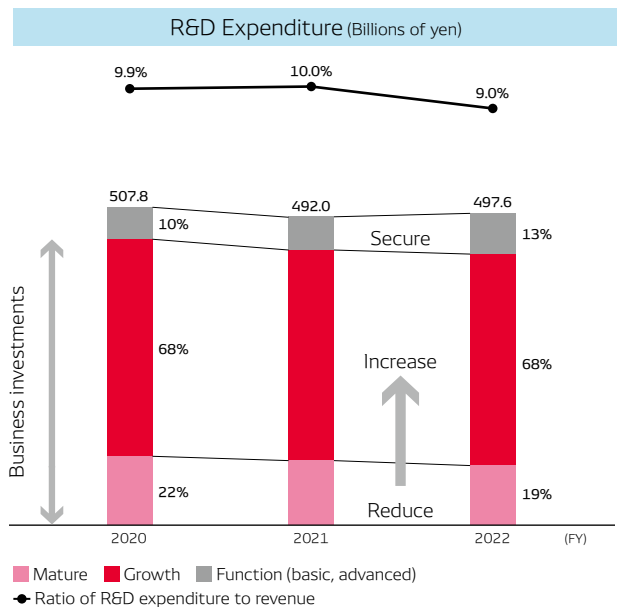
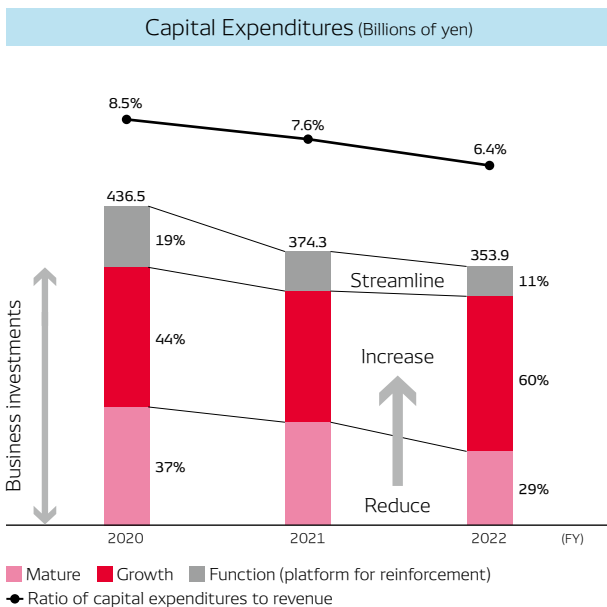
In the past, we have applied the strengths fostered over our long history in the automotive business to non-automotive businesses, such as factory automation and AgTech, to expand our business domains. Continuing this trend, we launched businesses in new fields in fiscal 2023 to broaden the scope of areas in which we contribute beyond automobiles to include mobility, *Monozukuri* (manufacturing), and society.

One concrete example of our advancements in the new field of mobility can be seen in the adoption of a product that we jointly developed with U.S. aircraft manufacturer Honeywell International Inc. for use in the all-electric vertical take-off and landing (eVTOL) aircraft of the German-based company Lilium GmbH. This decision was made in fiscal 2023. Electric aircraft are gaining attention as a new mobility option for addressing social issues related to urban traffic congestion and the related CO<sub>2</sub> emissions as well as for providing transportation venues in isolated areas. These vehicles are congruent with DENSO's principles of "green" and "peace of mind." Accordingly, we are accelerating development to assist in the production of electric aircraft for practical application.

Other initiatives include collaborating with partners to utilize the data acquired from DENSO drive recorders for use in the development of services that detect signs of dangers and help prevent accidents. We thereby look to provide a new form of peace of mind value.

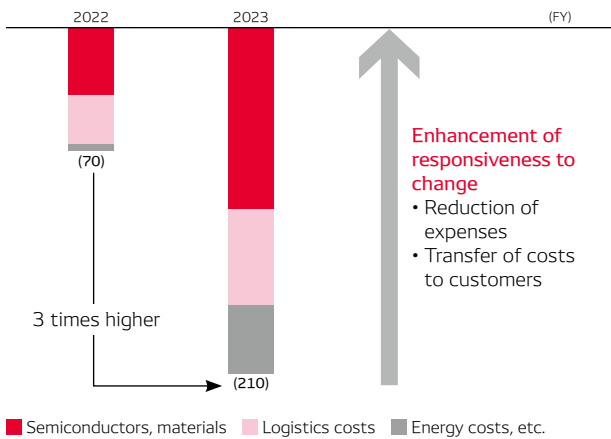
In today's volatile environment, it is important that we do not become complacent with simply improving existing businesses. Rather, we must promote "ambidextrous

### Resource Allocation



### Increase in Costs from Operating Environment Changes (Compared with fiscal 2021)

(Billions of yen)



management” by actively exploring new businesses in new fields and through new partnerships in order to create new value. Through our management approach, we will seek to generate value via preemptive response to social changes.

### (3) Flexible Response to Operating Environment Changes and Risks

#### A. Acceleration of Transition to Cost Structures Resilient to Change and Risks

Since fiscal 2021, we have been moving forward with the development of earnings structures that are resilient to change, a pillar of “Reborn21,” to ensure that we can secure a profit even if revenue drops by 30%. Cost cutting has been part of these efforts, and we have thereby managed to lower the break-even point by 6 percentage points over the past two years. The break-even point stood at 74% on March 31, 2022. The operating environment is expected to grow increasingly challenging, and the automotive and manufacturing industries are falling upon hard times. Nevertheless, DENSO is committed to ongoing cost structure reforms to guarantee that it can respond flexibly in any environment.

#### B. Resource Allocation Reforms

Our resource allocation targets for fiscal 2026 are capital expenditures of ¥350.0 billion and R&D expenditure of ¥450.0 billion. Based on these targets, we will take a disciplined approach toward allocating our limited resources in order to utilize these resources to their maximum extent for driving business growth.

We have already changed the focus of our capital expenditures from internal combustion engines to the CASE domain. Specifically, we are consolidating production locations on a global scale and reorganizing our production system to reduce the amount of resources allocated to internal combustion engines. In this manner, we are pursuing improvements to optimize resource allocation.

In regard to research and development, the range of fields to which we need to allocate resources is broadening to include electrification, advanced safety and automated driving, connected driving, and non-automotive businesses. Accordingly, we are introducing digital technologies and

automation tools and taking other steps to heighten development efficiency in order to make the best possible use of our resources.

#### C. Enhancement of Responsiveness to Change

Expenses in fiscal 2023 are expected to be roughly three times the amount of fiscal 2022. This increase in costs will be the result of repeated hikes to the prices of semiconductors, soaring logistics costs, and rises in energy costs due to the war in Ukraine. Combating this rapid deterioration of our operating environment will require us to enhance our responsiveness to change.

To this end, we are working to reduce expenses and to transfer costs to customers. For example, we are using AI-powered tracking technologies to bolster management of signs of abnormality in maritime transportation and to thereby increase the accuracy of our arrival estimates so that we can refrain from using high-cost air transportation as much as possible. At the same time, we are engaging in earnest discussion with customers to gain their understanding as we ask to transfer costs to transaction prices with them in order to overcome this crisis facing the entire industry.

### 2. Reduce Low-Profit Assets— Improvement of Asset Efficiency by 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) Optimization of 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). DENSO has set a cash on hand target of 1.1 times the amount of monthly revenue for the total of standard business funds and rainy-day funds for emergency circumstances. We have more or less been able to maintain fund levels that match this target. Going forward, we will target cash on hand of 1.0 times the amount of monthly revenue in order to bolster efficiency even as we seek to grow.

#### (2) Curtailment of Cross-Shareholdings

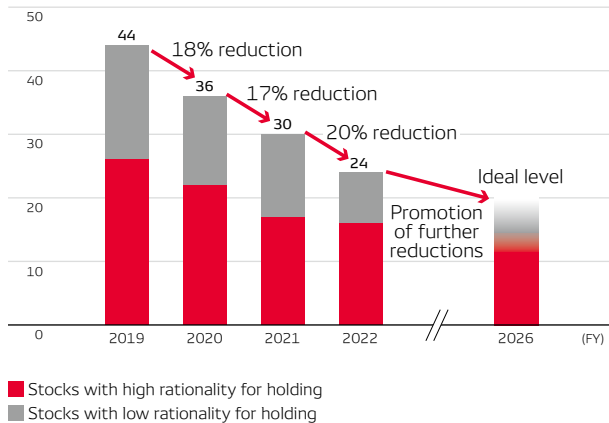
We have decided to widen the scope of cross-shareholdings for which we are examining possible curtailment to include not only shares held by the Company but also those of subsidiaries. By doing so, we are promoting reductions that exceed the requirements of Japan’s Corporate Governance Code. In fiscal 2022, we sold approximately ¥54.6 billion worth of holdings by the Company through total or partial sale of holdings of nine companies. As a result, the total number of cross-shareholdings came to 24, a reduction from 44 on April 1, 2019, three years ago. 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 growth strategies.

#### (3) Optimization of Inventories

Since the start of the COVID-19 pandemic, we have faced an

### Cross-Shareholdings

(Stocks)



opaque operating environment due to semiconductor shortages, logistics disruptions, and other detractors. In the face of this adversity, we have endeavored to secure stable supplies in order to maintain the inventories necessary for responding flexibly to fluctuations in demand. As a result, inventories amounted to around ¥1 trillion on March 31, 2022. When the current extreme circumstances have dissipated, we will define target levels for different types of inventories through global coordination among domestic and overseas bases in order to swiftly optimize inventory levels.

For this purpose, we will track temporary inventories, strategic inventories, and standard inventories. Temporary inventories refer to those held in response to logistics disruptions and other operating environment factors. Strategic inventories are those traditionally held to hedge against natural disaster risks and against tight supply–demand balances for electronic components and other items. Standard inventories are those held for use in production activities under normal circumstances. By sharing issues and directives for optimizing the levels of these inventories on a Companywide basis, we aim to maintain an up-to-date understanding of inventory conditions and cultivate an awareness of issues.

In this manner, we will seek to overcome adversity through concerted efforts based on careful analysis in order to further cement our operating foundations.

### 3. Improve Capital Structure— Pursuit of Targeted Capital Structure by Bolstering Funding Platform and Issuing Proactive Shareholder Returns

We look 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.

#### (1) Utilization of Borrowings and Diversification of Funding Sources

DENSO prepares for future large-scale investments by diversifying funding sources through the utilization of borrowings from banks and domestic and overseas corporate bonds, among other sources.

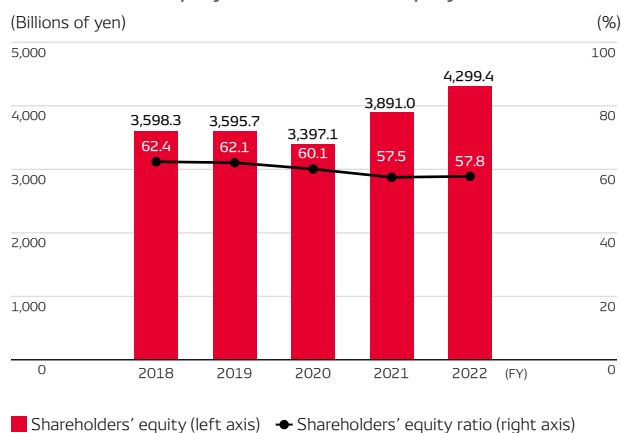
In fiscal 2022, the Company issued its first U.S. dollar-denominated sustainability bonds. Through the issuance of sustainability bonds, from which the procured funds can only be used for development and investment projects in “green” and “peace of mind” fields, we hope to communicate, on a global scale, the business activities founded on sustainability management that we have advanced since our founding and the successes of these activities. In this manner, we look to accelerate our initiatives for responding to environmental and social issues. The choice to denominate these bonds in U.S. dollars was made to allow for funds to be procured in greater amounts from a wide variety of investors in the large overseas market. We have thereby succeeded in developing a stable funding platform that will enable us to invest in growth fields and new businesses and to take part in M&A activities and alliances. Further improvements to capital efficiency will be pursued going forward by utilizing foreign currency-denominated corporate bonds and other types of borrowings while maintaining a high degree of financial health.

#### (2) Shareholder Return Policies

DENSO aims to issue stable shareholder returns that exceed cost of shareholders’ capital over the long term by increasing both dividends (income gain) and share price (capital gain).

For dividends, we have a basic policy of consistently growing dividend on equity (DOE: Dividends ÷ Shareholders’ equity) from the level of 3.0%. Accordingly, we increased dividend payments by ¥25 per share year on year in fiscal 2022, making for DOE of 3.1%. As for treasury stock acquisition, we have acquired 12 million shares, or ¥97.5 billion worth, of treasury stock in fiscal 2022. The scale of this acquisition was determined by comparing our targeted capital structure and theoretical stock price with the reality based on our long-term business plan. Our new financial strategy calls on us to transition to new shareholder return

#### Shareholders’ Equity / Shareholders’ Equity Ratio



#### Status of Long-term Credit Rating (As of July 13, 2022)

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

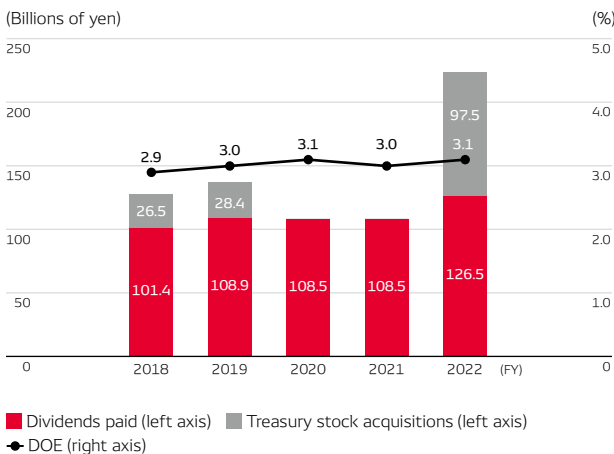


## TSR (Cumulative / Annual Rate)

Investment period	1 year	3 years		5 years		10 years	
	Cumulative / Annual rate	Cumulative	Annual rate	Cumulative	Annual rate	Cumulative	Annual rate
DENSO	9.2%	92.4%	24.4%	75.1%	11.9%	228.9%	12.6%
TOPIX	2.0%	31.2%	9.5%	44.3%	7.6%	183.3%	11.0%
TOPIX (Transportation equipment)	14.5%	44.0%	12.9%	43.9%	7.6%	163.9%	10.2%

Source: DENSO CORPORATION

## Total Shareholder Returns / Trend in DOE



policies, and we have thus doubled the amount of shareholder returns from fiscal 2022.

Looking ahead, we will continue to issue proactive shareholder returns through stable, long-term dividends and flexible and effective treasury stock acquisitions in order to improve our capital structure and subsequently our corporate value.

## 4. Engage in Dialogue with Markets— Acceleration of Dialogue through Increased Communication Regarding Non-Financial Capital

Through its investor relations activities, DENSO is communicating information to investors and analysts in a timely and appropriate manner and advancing a dialogue through efforts by corporate officers. By doing so, we aim to reduce information gaps with capital markets in our efforts to enhance our corporate value.

In fiscal 2022, we arranged online meetings with an aggregate total of 1,000 companies, roughly double the number from fiscal 2021, amid the significant restrictions on communication with investors imposed by the COVID-19 pandemic. In addition, we held DENSO DIALOG DAY 2021, our first time to hold such an event in two years, thereby gaining a great deal of support and input.

Meanwhile, DENSO is ramping up sustainable management initiatives from an ESG perspective in light of the rising attention being turned toward ESG issues. An area of particular attention in this regard is human capital and other forms of non-financial capital. We are swiftly moving forward with investments in intangible assets, including those aimed at human resource development and R&D, based on the belief that such forward-looking investments will translate directly

to growth and improved corporate value. 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 accelerating forward-looking investment in non-financial capital while working to achieve higher levels of investment efficiency. We will also look to quantify the benefits of investment in non-financial capital and to clarify how such investments relate to DENSO's value creation activities. This will be imperative to ensuring that stakeholders accurately evaluate our growth potential. This is one of the reasons we are expanding the provision of information on non-financial capital through investor relations activities.

These investor relations activities were highly evaluated in fiscal 2022, leading DENSO to be ranked 1st in the automobile, automotive parts, and tires category in the 2021 Awards for Excellence in Corporate Disclosure presented by the Securities Analysts Association of Japan. In addition, *DENSO Integrated Report 2021* received a silver award in the 2021 WICI Japan Integrated Report Award program. This is just one of several honors bestowed upon this report, which have given us numerous opportunities to use our integrated report as a communication tool. Meanwhile, the semiconductor business briefing arranged in fiscal 2023 was incredibly well received. In winter, we are planning to hold DENSO DIALOG DAY 2022. Through such activities, we will continue to gather input from the market for use in heightening the quality of management.

## Closing

A glance at the global market will reveal a state of turmoil, the likes of which is rarely seen, spreading across the entire industry. Factors contributing to this turmoil include semiconductor shortages, logistics disruptions, and inflation. Personally, I believe that this turmoil presents a significant opportunity for DENSO to change. This is why it is so important for us to take a proactive approach in faithfully implementing the financial strategy I have spoken of. I would like to promise our success in de-emphasizing and discontinuing internal combustion engines and other mature businesses, growing the CASE domain and new businesses, and implementing semiconductor strategies to drive the creation of corporate value. We will be pooling the knowledge of our 170,000 global employees in order to accomplish these objectives. I am sure that these efforts will allow us to show you an even stronger DENSO as we approach 2025. We ask that you look forward in anticipation as we pursue these endeavors.

# Human Capital

## Outline of Efforts to Strengthen Human Capital

At DENSO, we believe that the ability of our employees and teams to turn ideas into reality are what enables us to deliver new social value and bring happiness to people and society as a whole. In fiscal 2022, we formulated and rolled out “PROGRESS, a vision and action plan for our people and our organization,” with the aim of becoming a “group of professionals with the ability to turn ideas into reality.” In addition, under the Mid-term Policy for 2025, we stated that the promotion of people and the organization is the prerequisite for us to realize the goals of the policy. As our business structure changes significantly and with the heightened social expectations of DENSO, we are pushing forward with efforts to enable our diverse group of employees to envision their dreams and make them a reality while also striving to maintain and enhance their level of engagement with their work and the organization.

**KPI Targets for Fiscal 2026**

Rate of affirmative responses in employee engagement survey **78%**

Number of women in management positions  
**Business fields: 200    Technical fields: 200**

## Characteristics of DENSO's Human Capital (Fiscal 2022 results)

Number of employees applying for new in-house job offerings <b>73</b>
Rate of affirmative responses in employee engagement survey <b>70%</b>
Number of women in management positions <b>Business fields: 130</b> <b>Technical fields: 132</b>

## Aiming to Be a Group of Professionals with the Ability to Turn Ideas into Reality

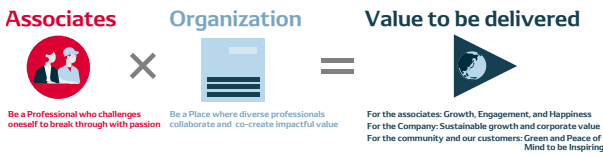
The ability to turn ideas into businesses, which helps create businesses that properly ascertain social trends, and the ability to realize mass production, which helps us deliver products and services of the highest quality to customers around the world, are two abilities that are crucial to the growth of DENSO and its employees. To that end, under “PROGRESS,” the vision and action plan for our people and organization, we have re-envisioned our human resource policies and management based on the four pillars of “Design,” “Develop,” “Drive,” and “Diversity & Digital,” and are stepping up our support for our employees, who continue to take on the challenge of change.

## Examples of Initiatives under PROGRESS

Design: Career	In-house job offer program, recurrent education programs on software
Develop: Learn and grow	Global leadership development programs
Drive: Evaluation and treatment	Evaluation system based on role and results
Diversity & Digital: Workstyles and culture	Measures to enhance employee engagement

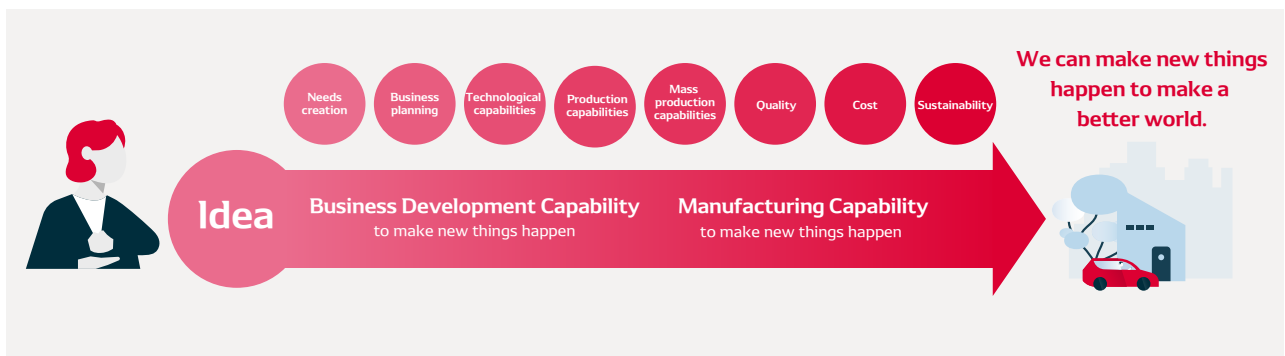
Vision for Our Associates and Organization

# PROGRESS



## Business Portfolio Transition and Career Innovation

To realize the DENSO Philosophy of “Contributing to a better world by creating value together with a vision for the future,” we are working on an organization-wide basis to enhance the mobility of our thousands of personnel across focus areas, including promoting the job transition from internal combustion domains to electrification domains and the transition from hardware to software. At the same time, we are bolstering initiatives toward career innovation to ensure that each employee



can become a professional with the ability to turn ideas into reality and pave the way in an era of dramatic change.

For the software domain, which is particularly important, we offer the “sommelier certification program,” which objectively certifies the skills possessed by our software engineers, as well as recurrent education programs on software, which help employees who have switched over to the software engineer position acquire the necessary knowledge and skills. Lasting for a period of six months, these recurrent education programs focus on having participants gain valuable knowledge on software and help them make entries into new domains through hands-on experience. In addition to passing on skills, we have in place structures and environments that provide employees with career counseling and advice, on-the-job training, and mentorships. In these ways, we encourage hundreds of employees a year to transition to software positions while providing them with support tailored to their individual needs. Additionally, to facilitate the swift allocation of personnel in focus fields and support independent career development, we enhanced our in-house job offer system in fiscal 2022. To date, we have had 73 employees seek new challenges by applying for the approximately 80 posts available through the system (new business development, DX promotion, etc.).

To increase the number of employees who want to take on new challenges and continue to set new records for themselves, it is necessary for each individual to first have a thorough understanding of the Company's policies and then develop their career independently by envisioning what they wish to achieve and increasing their number of capabilities. Accordingly, to support employee self-reliance and independence, we are working to strengthen support measures such as improving career design dialogue and career training between supervisors and employees and enhancing career consultation centers.

### Initiatives to Enhance Employee Engagement

A high level of work engagement is needed for each employee to continue to grow, take on challenges, and produce results. To achieve such engagement, a workplace that facilitates good communication is indispensable. At DENSO CORPORATION, we carry out an employee engagement survey every year, targeting our roughly 45,000 employees belonging to approximately 2,500 workplaces. This survey classifies workplaces into 11 types based on an analysis of various aspects, including the individual employee's desire to grow on their own volition, the level of support from supervisors, and workplace culture. The results for each individual workplace are disclosed to the employees working in that workplace in an effort to create even better working environments through communication between employees. In addition, for managers, who play a key role in creating positive workplace environments, we provide lectures by experts and training in dialogue skills, thereby enhancing their ability to manage a diverse pool of personnel as one team.

In the engagement survey conducted in fiscal 2022, the rate of affirmative responses was 70% (up four points over the previous fiscal year). From fiscal 2023, we will continue to strive to achieve and improve this rate as part of our management indices and reinforce efforts to realize improvement.

### Promotion of Diversity and Inclusion

An environment of co-creation where employees freely and openly exchange different opinions and ideas provides the source for innovation, and promoting diversity and inclusion is crucial to creating such an environment. At DENSO, we are promoting initiatives on a global scale to realize a working

environment and an organizational culture that enables an active and fulfilling role for diverse human resources in terms of gender, gender identity, sexual orientation, age, race, nationality, religion, and disabilities as well as in terms of unseen differences such as experience and value systems.

### Non-Japanese Employees

Since establishing a sales office in the United States in 1966, DENSO has continued to expand its business overseas for more than 50 years. At the moment, we carry out our business activities at 135 overseas locations together with our approximately 170,000 employees. To continue our global business expansion, we are placing emphasis on systematically cultivating local leaders who can oversee the future of DENSO and drive new business creation. In our talent management activities, which we conduct through collaboration between the head office and our overseas bases, we are working to promptly discover outstanding personnel and provide them with support for growth through such initiatives as the Global Leadership Development Program (total of roughly 250 participants since 2009), which seeks to cultivate global leaders for the next generation.

### Promoting the Active Role of Women

With the aim of enabling our employees to work with enthusiasm in any position regardless of gender, we have formulated KPIs for every phase of employees' careers, including joining a company, encountering major life events, and being promoted, and are promoting activities to achieve these KPIs accordingly. In fiscal 2022, we adopted targets to increase the number of women working in not only business and technical fields but production fields as well. Guided by these targets, we have been promoting such efforts as roundtable discussions with female employees who serve as role models for other women and diversity training for the supervisors of female employees. In addition, as a global initiative, we held events for the first time on International Women's Day, such as lectures and panel discussions in Japan, North America, Europe, and India, in an effort to further foster a sense of solidarity.



Role model roundtable discussion for female employees

### Mid-career Hires

DENSO has been promoting mid-career hires in order to increase diversity of experience and acquire knowledge that the Company has been lacking. New mid-career hires account for around 25% of the total number of employees we hire for regular positions. To date, mid-career hires have been active in a wide variety of domains of their choosing, from mobility fields to advanced research and new business development. Recently, the number of mid-career hires working in the electrification domain has been increasing. Given this trend, we have in place various types of support to help mid-career hires overcome any mental or physical anxieties, including helping them establish a personnel network through introductory training and providing them with a consultation center.

### A Word from a Participant in the Recurrent Education Program on Software

Before participating in the recurrent education program, I was in charge of developing vehicle drive motors, and I had barely any knowledge of software or relevant work experience. Although I did feel a bit uneasy taking on challenges in a new field, I decided to join the program based on my desire to learn new skills and enhance my own capabilities. The recurrent education program provided extremely comprehensive content and support, covering everything from basic skills to actual research based on the role I would play in a software division. I was able to progress through the program while gradually gaining an understanding of various software-related aspects, which I thoroughly enjoyed. Software technology is evolving on a daily basis. For that reason, rather than being content with learning one or two new skills, I intend to actively acquire new skills on my own and study new developments on an ongoing basis.



Takumi Inoue  
Cloud Services R&D Division

### Message from the Chief Human Resources Officer

## Enhancing Corporate Value by Promoting a Free and Open Corporate Culture and the DENSO Spirit

#### Kenichiro Ito

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



Since its founding, DENSO has always promoted management that valued people. Management that values people helps improve the well-being of each employee and leads to the provision of new value that satisfies the customer. The first step in achieving such management is ensuring that employees can work in good health and with peace of mind. The next step is enabling employees to work with enthusiasm in an environment that facilitates good communication. In addition, it is also important to have each employee act on behalf of the customer and society and be able to express themselves freely.

Recently, we launched PROGRESS, a vision and action plan for our people and our organization, with a view to enhancing employee well-being. Under PROGRESS, we have declared our intention to reform various personnel systems so that we can become a group of professionals who take action and implement concrete measures to bring happiness to people and society and who are able to envision their dreams and make them a reality. In this integrated report, I have the privilege of reporting the essence of such initiatives.

The driving forces for realizing the goals of PROGRESS are a free and open corporate culture and the DENSO Spirit, which serves as a guideline for the actions of our employees. If we can embody the DENSO Spirit within a culture where there is little distance between employees and executives and supervisors and their subordinates and where employees can exchange their honest opinions based on respect for one another, then we can truly invigorate our people and our organization.

DENSO is entering the period of its second founding in which it is taking on such challenges as creating value in the CASE era and realizing carbon neutrality. Being able to continue to deliver new value to our customers and contribute to society going forward will depend on several factors. These include how we will increase the number of employees with diverse thoughts and ideas and how we will empower such employees so that they can work with enthusiasm. These also include the kind of steps we will take to further enhance employee well-being. In that regard, it is now more important than ever that we maintain a free and open corporate culture and share the DENSO Spirit with all of our diverse employees.

As chief human resources officer (CHRO), I have worked to create opportunities to speak about the relationship between DENSO's management policies and strategies and the human resource development initiatives we are promoting under PROGRESS. I have also spoken about what I have learned through my personal work experience and my experience putting the DENSO Spirit into action. In addition, I have held numerous dialogues with a wide range of our global employees, from new recruits and regular employees to managerial personnel and executives. At DENSO, the leaders of Group companies and heads of departments in each area around the globe value this kind of communication and execute their duties with the utmost respect for communication. As we enter into the period of our second founding, we find ourselves in an opportune time to focus our efforts on maintaining and passing on a free and open corporate culture and the DENSO Spirit. Going forward, we will continue these kinds of human resource initiatives as we work to enhance DENSO's corporate value.



# Manufacturing Capital

## Outline of Efforts to Strengthen Manufacturing Capital

With a focus on the progression of the CASE revolution, DENSO is 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. Furthermore, as part of our efforts to establish DENSO-style digital-twin plants, we will strive to evolve our plants by combining our conventional strength of creativity, which is realized through the collective knowledge and efforts of our employees, and the strength of our scientific, logical analysis capabilities based on data, and leveraging them to a greater extent than ever before.

### KPI Targets for Fiscal 2026

Capital expenditures **¥350.0 billion**

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

## Characteristics of DENSO's Manufacturing Capital (Fiscal 2022 results)

Capital expenditures

**¥353.9 billion**

Planned investment in efforts to reduce

CO<sub>2</sub> emissions

¥100.0 billion (2022–2025)

CO<sub>2</sub> emissions per unit

**48% reduction**

(compared with fiscal 2013, non-consolidated)

With regard to our fiscal 2026 target of achieving a 50% reduction compared with fiscal 2013, we have realized a 48% reduction as of fiscal 2022.

## Global Production and Supply Structure

Guided by the basic principle of manufacturing products in close proximity to our customers, we have built a highly competitive production structure in North America, Europe, China, greater Asia (including India), and Japan. At our manufacturing bases around the world, we aim to achieve leading levels of QCD in each region and realize *Monozukuri* that can withstand change. In order to reshuffle our business portfolio to accommodate the progression of CASE, realize carbon neutrality, and deliver products to our customers in a stable manner even while facing various supply risks, we are clarifying the role that each region and plant needs to play and striving to build a robust global production and supply structure that fully leverages DENSO-style *Monozukuri* know-how and production assets across the global supply chain, including our suppliers.

## Initiatives to Realize Carbon Neutrality in Our *Monozukuri* Activities

DENSO aims to realize carbon-neutral *Monozukuri* by 2035. To that end, DENSO established the in-house Carbon Neutral Project Team in 2021 under which it will promote initiatives to conserve, create, and reuse energy in its *Monozukuri* activities. As an energy-saving initiative, we are striving to visualize energy use through F-IoT and reduce the wasteful use of energy during production. In addition, we are developing eco-friendly facilities and manufacturing methods that help us conserve energy. We are also promoting the use of materials and manufacturing methods that do not require heat by considering the idea of carbon neutrality from the stage of product development. As part of our efforts to create energy, we have designated the Anjo Plant, Hirose Plant, Nishio Plant, and DENSO FUKUSHIMA CORPORATION as model plants at which we will commence a wide array of verification tests for creating, storing, and reusing energy within our *Monozukuri* activities. In these ways, we will steadily push forward with efforts to realize our goal of carbon neutrality.

## 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. In the same manner as these EF activities, the DENSO-style digital-twin plants that we are currently promoting revolve around people in the leading role. With such plants, we are promoting further improvements led voluntarily by personnel on the front lines by weaving together the inspiration and creativity that occurs on-site with various data related to production. By doing so, we are working to evolve our on-site manufacturing operations on a daily basis. The data we accumulate through these efforts is not only put to use within our plants but also linked with data from the engineering chain for product, process, and equipment design and data from the supply chain, including data from materials and components suppliers and data from our customers. By linking such data, we are able to enhance the speed and flexibility throughout the process from development to production. Going forward, we will refine the concept of digital-twin plants through in-house verification tests with the aim of rolling out the concept across the DENSO Group and among our suppliers.



Message from the Chief *Monozukuri* Officer

## Creating DENSO-style Next-generation Plants That Deliver New *Monozukuri* Value

**Katsuhisa Shimokawa**  
Chief *Monozukuri* Officer (CMzO), Senior Executive Officer



DENSO has pursued efforts toward *Monozukuri* with a focus on high levels of productivity and quality. However, the *Monozukuri* environment is now entering into a period of uncertainty the likes of which we have never seen before due to such trends as digital transformation (DX), carbon neutrality, labor shortages, and the need to respond to various risks. Through our DENSO-style digital-twin plants, we aim to deliver quality products to our customers at even greater speeds. We also aim to resolve social issues with a focus on a new generation of people who are digitally savvy.

Typical digital-twin plants gather plant-related information using IoT and other digital technologies to recreate physical plants in virtual spaces with the aim of guiding and operating the plant based on optimized production data gained through simulations, without relying on the wisdom, intuition, and know-how of people. In contrast to this, our DENSO-style digital-twin plants focus on people playing the leading role. At our digital-twin plants, we aim to accomplish three major goals.

The first goal we aim to achieve is realizing plants that can flexibly respond to change and operate with outstanding lead times. At our digital-twin plants, we will compile all digital data related to the entire production process, from preparation for production to the implementation of mass production, on an information platform. In addition, we will make thorough use of information on similar production lines that have existed in the past and actual production performance data acquired via F-IoT. By doing so, we will be able to rapidly accelerate the speed at which we conduct such actions as launching new production lines and making changes to the production process.

The second goal is creating plants where employees can work creatively and with excitement. To that end, we will entrust work previously handled by people to robots, machines, and AI and encourage our employees to focus on the kind of added value that only humans can provide (working with inspiration and creativity). Digital-twin plants afforded us the opportunity to use digital environments to experiment with aspects that we could not test easily in

the real world due to safety and quality-related reasons. While borrowing the strength of digital technologies, we will work to create environments in which we can swiftly carry out a wide range of trial-and-error experiments. By doing so, we aim to create plants where millennials and Generation Z employees, who are digital natives and represent the core of society, can work creatively with excitement.

The third goal is realizing plants that connect us with our customers and suppliers and provide a sense of trust and peace of mind. Rather than having our plants simply be contained within DENSO, we will seek to link digital data from our plants with data from our customers and data across the supply chain, including that of our suppliers, so that we can respond to fluctuations in production, such as rapid increases or decreases, ensure quality and CO<sub>2</sub> traceability, and restore plant operations swiftly and more accurately in the event risks such as a natural disaster or plant fire occurs.

In 2022, we will introduce testing environments at our headquarters based on the concept of realizing this kind of digital-twin plant. We will also conduct various development and verification activities with the aim of rolling out digital-twin plants on a Companywide basis from 2025 onward.



# Intellectual Capital

## Outline of Efforts to Strengthen Intellectual Capital

To continue to provide value to society in an era of dramatic change, starting with the progression of CASE, it is imperative that we truly understand the needs of our customers and take action to meet those needs.

To that end, we are stepping up our R&D activities so that we can refine our strengths in mechanical parts, electronics, and software (which function as the body, nerves and blood vessels, and brain, respectively) and enhance our ability to combine such strengths in an optimized fashion. At the same time, to bolster development efficiency, we aim to increase our R&D expenditures to around the level of ¥450.0 billion in fiscal 2026.

In addition, implementing an IP strategy in an integrated manner with our business strategies is essential to securing a competitive edge. We will therefore support our business endeavors through the building of an IP portfolio primarily in focus fields and the strengthening of IP activities geared toward open innovation.

### KPI Targets for Fiscal 2026

R&D expenditures (Including portion of asset capitalization)

**¥450.0 billion**

## Characteristics of DENSO's Intellectual Capital (Fiscal 2022 results)

R&D expenditures  
Including portion of asset capitalization  
(ratio to revenue)

**¥497.6 billion (9.0%)**

Number of patent applications filed

**Approx. 4,400**

Number of patents held

**Approx. 42,000**

## Reinforcing Our R&D Activities

Throughout our over 70-year history of product development, we have expanded our R&D domains from mechanical parts to encompass electronics and, more recently, software with a view to maximizing the value of green and peace of mind. By doing so, we have achieved steady business growth. Software development, in particular, accounts for nearly half of our R&D expenses, and, as such, we are pressed with the urgent task of developing personnel who are software experts. To that end, we aim to cultivate and train 1,000 software engineers by 2025. In addition, with regard to in-vehicle semiconductors, which are playing an increasingly more important role in the fields of electrification and automated driving, we will pursue dynamic development activities by drawing on the strengths that we have cultivated in our over half a century of semiconductor research and on our various business alliances.

Additionally, we will work proactively to form even more allies in our R&D domains from various fields through collaboration and alliances within the Toyota Group as well as collaboration with industrial, government, and academic institutions and technical liaisons.

## Balancing Efforts toward Reinforcement with Efforts toward Efficiency

Efficiency is essential in order to gain the best possible results from our limited amount of resources. In terms of businesses nearing the final stage, we are conducting a close examination of projects, including business transfers, and at the moment we aim to reduce the development costs of businesses nearing the final stage by roughly 40% by 2025. In addition, the introduction of D-tote, a DX tool for proof of concept,\* is an example of an important DX initiative we are promoting on a Companywide basis. In particular, for software development, which involves intensive work hours, we have been executing DX investments in such areas as automating test processes, and this has led to efficiency enhancements that have had an impact equivalent to over double the amount of our investment. We are also moving forward with the process for new business creation, from planning to verification, in short periods and making decisions based on a "go/no go" criterium. Furthermore, by assessing the feasibility of commercialization on a rolling basis and reshuffling our project portfolio, we are implementing swift, highly disciplined investment.

\* Process of verifying the feasibility of an idea through demonstration before the prototype development phase

## Promoting IP Strategies with a Focus on the Progression of CASE

Added value for automobiles is beginning to shift toward the CASE domain. Under these circumstances, DENSO is promoting three main initiatives in order to win out against the competition, which now includes not only major players from the automotive industry but also ICT companies and start-ups. These initiatives include the following: (1) establish a competitive edge both inside and outside the automotive industry by increasing the number of patents that can be used by other companies; (2) create partnerships with companies in other industries based on IP collaboration (promotion of alliances); and (3) promote the external procurement of IP (prompt acquisition of the necessary IP). Guided by these three initiatives, we are realizing a sustainable business ecosystem through the utilization of IP and seeking to enhance our competitiveness and corporate value.

## Initiatives to Strengthen Our IP Portfolio

For patent application and management of owned IP, we are working to increase the percentage of IP rights we possess in focus fields while at the same time striving to enhance the efficiency of de-emphasizing and discontinuing businesses. By doing so, we are actively reshuffling our IP portfolio, which we place in a high position among our intellectual capital.

Also, to accelerate the value of the products we offer in the CASE domain, it is imperative that we pursue thorough industry-wide collaboration in terms of international standardization and rulemaking. To that end, we actively participate in activities to help establish necessary regulations and standards for the future automotive industry and are working wholeheartedly to promptly develop measures to comply with such regulations and standards. As part of these efforts, we are taking steps to identify technologies for which we should collaborate with other companies and technologies that we need to maintain internally to achieve differentiation, and are applying for patents in accordance with the purpose of a technology's utilization. By doing so, we are working to contribute to the automotive industry and realize (1) and (2) listed above.

Furthermore, to increase the number of patents that can be utilized by other companies, from 2021 we have been confirming implementation status of other companies and have added an internal award program for the acquisition of standard-essential patents. Through these efforts, we are striving to enhance employee awareness and increase the number of patents that can be utilized by other companies.

Message from the Chief Technology Officer

## Promoting Semiconductor Strategies Aimed at Maximizing the Value of Green and Peace of Mind

Yoshifumi Kato

Chief Technology Officer (CTO), Senior Executive Officer



### Striving to Ascertain the Changing Times So That We Can Continue to Create New Value

As we enter the period of a once-in-a-century paradigm shift, I believe it is important to once again faithfully practice the DENSO Creed's ideal of "be pioneering, innovative, and creative," if we are to overcome this challenging time and lead the industry into the next generation. This ideal is reflected in the Mid-term Policy for 2025, which sends a message to all employees to "aim for world-first and world-best offerings," helping them renew their awareness therein.

Starting with our R&D activities, our intellectual capital has served as a source of DENSO's competitiveness, and over the past five years we have spent a cumulative total of roughly ¥2.4 trillion on these activities, with a focus on the domains of green and peace of mind. Amid these activities, we have seen the growing importance of not only software technologies but also semiconductors as a foundation for implementing efforts in these domains, and our stakeholders have shown a high level of interest in semiconductors as well. Furthermore, although semiconductors are one form of technology, the way you need to respond to them differs depending on the domain or technology in which they are used. We have divided semiconductors into three areas: microcomputers and System-on-a-Chip (SoC), power and analog, and sensors, and will draft and implement development and procurement strategies for each area going forward.

### Strategy for Microcomputers and SoC

**Promoting Two Activities to Secure Stable Procurement of Advanced Logic Semiconductors: "Development and Standardization and Deepening the Cooperation with Specialized Manufacturers" and "Activities to Maintain the Supply Chain"**

As we make progress with the division of labor for microcomputers and SoC into specifications, design, and manufacture, a greater degree of miniaturization is required. To that end, ensuring a stable procurement network together with specialist manufacturers is the most important initiative for securing semiconductor supply. From an in-vehicle perspective, we are striving to present strategic specifications and promote standardization and are also working to secure numerous production bases and reform our

semiconductor procurement structure "Targeting 2025." Under this structure, we are working to promote the standardization of microcomputers and reduce discrepancies between the automotive and semiconductor industries with the goal of making our supply chain more resilient.

### Strategy for Power and Analog Semiconductors Developing and Manufacturing In-House "Devices & Wafers" and "Manufacturing Processes" to Maximize System Competitiveness

Striving to develop tough semiconductors, we have been producing high-voltage power semiconductors and analog semiconductors for over half a century. For high-voltage power semiconductors, we have been working with strategic partners to produce large-diameter silicon wafers and have been pursuing the full-scale launch of SiC, which contributes to improved energy performance of BEVs. With regard to analog semiconductors, we have been accelerating the development of tough semiconductors that achieve the performance required for in-vehicle environments as well as application-specific integrated circuits, which thoroughly meet the needs of customers. By 2025, we aim to achieve ¥500.0 billion in revenue from internally manufactured semiconductors.

### Strategy for Sensors

**Strengthening Our "Judgment Capabilities" for Current Trends and "Realization Capabilities" for the Future to Achieve Competitive Strategic Partnerships**

For environmental recognition sensors that underpin safety system products, we are working with semiconductor vendors, particularly ones with which we are engaging in strategic collaboration, to accurately communicate the need for in-vehicle sensors and establish win-win relationships in anticipation of rapidly changing technological trends. By doing so, we are pushing forward with development activities. In addition, we are bolstering our planning capabilities for the kinds of semiconductors that will be needed in the future of mobility as well as system-related technological capabilities that will allow us to maximize semiconductor sensing performance. By 2025, we aim to develop compact, high-performance environment recognition sensors with advanced driving assistant features of level three or higher.



For more details, please see the briefing on our semiconductor strategy.  
<https://www.denso.com/global/en/about-us/investors/business-briefing/>



Please also see our special semiconductor website.  
<https://www.denso.com/global/en/business/innovation/semiconductor/>





# Natural Capital

## 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. Accordingly, maintaining and preserving natural capital is an extremely important issue for DENSO. In particular, we believe we can help minimize the negative impact of the globally shared issue of climate change on natural capital by not only continuing and enhancing energy-saving activities, in which we as a company excel, but also by further refining and applying our long-cultivated environmental technologies.

Assessing 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.

## Promoting Environmental Activities in Accordance with Our Eco Vision

We have established Eco Vision 2025 as an action plan for the period up until 2025, a year that marks the midway point for realizing sustainable communities and society by 2050. Under this vision, we have established the three targets of "Energy," "Clean," and "Green," collectively referred to as "Target 3," in order to accelerate a response to issues related to energy, climate change, resources, water, environmentally harmful substances, biodiversity, and co-existence with nature in consideration of the importance these issues have regarding our business activities and of social demands and expectations. We have also established "Action 10," which we promote in all of our business domains from the perspectives of products, factories, associates, and management, based on potential risks and opportunities in the future.



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/>



## Minimum 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 promoting proactive 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), and at the moment, we forecast that we will essentially be able to reach this target.

Fiscal 2022 results for CO<sub>2</sub> emissions per unit  
(compared with fiscal 2013)  
DENSO CORPORATION: 52 (-48%); Group: 57 (-43%)

Going forward, we will continue and 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

## Characteristics of DENSO's Natural Capital (Fiscal 2022 results)

CO<sub>2</sub> emissions  
**1.91 million t**  
(5% reduction compared with fiscal 2021,\*  
global basis)  
\* Adjusted to pre-pandemic levels

Renewable energy usage amounts  
**87,375 MWh (non-consolidated)**

verification tests. Through such efforts, we will aim to make our plants completely carbon neutral.

## Initiatives toward Water Risks

In recent years, in addition to the prevention of water contamination and other pollution, a variety of water problems including droughts and floods are intensifying, resulting in stronger demand for efforts to counter water risks. For this reason, DENSO has identified water risks. Based on evaluations that take into account regional characteristics (locational factors), we promote the reduction of these risks by strengthening relevant efforts to respond to water risks and sharing case studies of such measures. We also ensure emergency water resources in accordance with regional needs and actively promote rain-water usage. Furthermore, we are undertaking efforts to address water risks in our supply chain based on our understanding of current conditions.



Please see the following URL for more information on our efforts to respond to water risks ("(3) Water Risk Management").  
<https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/clean02/>



## Case Study: JIT Water Management

We have introduced Just-in-Time (JIT) water management, which is a management system that supplies water at the necessary time, in the necessary amount, and to the necessary place through the establishment of a comprehensive management model that covers facilities for everything from water supply to water disposal. Through JIT water management, we are working to ascertain the day water was used, the time it was disposed, the necessary water amounts, and the concentration of drainage in a manner specific to each production line and facility. Furthermore, this system separates industrial water, city water, and circulated water, in addition to adjusting water consumption amounts and controlling the amount of chemicals introduced in accordance with drainage concentration.

Not only does this reduce the amount of water we use, it also helps us minimize the impact of water intake and wastewater on the natural environment and ecosystems.

## 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 risks and opportunities related to this impact. We have also been examining ways to reflect the results of this analysis in our business strategies. Through these efforts, we have been working to pursue avenues that will lead to sustainable business growth. In this section, we introduce the status of the initiatives we are promoting in accordance with the TCFD.

### Scenario Analysis of Business Risks and Opportunities

To understand the impact of climate change on our businesses and to identify climate-related risks and opportunities, 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 risks and opportunities by analyzing the differences between our medium- to long-term strategies and these scenarios.

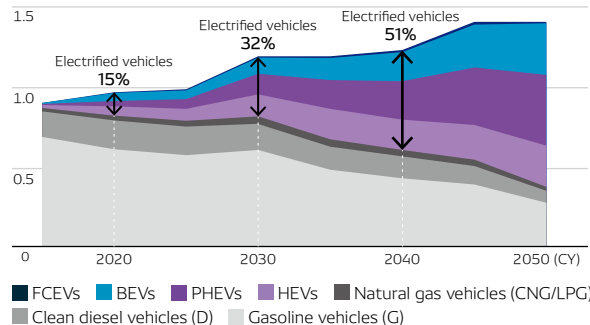
#### Hypothesizing Scenarios

In terms of transition risk, we have defined the Beyond 2 Degrees Scenario (B2DS) and the Sustainable Development Scenario (SDS), which are hypothesized by the International Energy Agency (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 electrified vehicle (xEV) introduction by 2040 and analyzed risks and opportunities 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 Assessment 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 risks and opportunities based on the differences between these scenarios and Group strategies.

#### Scenario for the Commercialization of Electrification as Stated by the IEA (under the assumption of an average temperature increase of 2°C)

Projected sales volume of passenger vehicles (millions of vehicles)



Source: Documents from the 1st Strategic Commission for the New Automotive Era, Ministry of Economy, Trade and Industry

### Analysis of Climate-related Risks and Opportunities

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 equivalent to over 2% of total revenue, or, as an absolute value, over ¥10.0 billion in revenue, were identified as key items. The main risks and opportunities identified through this analysis are as follows.

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

#### Major Risks

Key items	Timeframe / Level of impact	Major potential financial impact	Financial impact (fiscal 2026)	Response measures	Response cost (fiscal 2022)
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 to see even tighter regulations on fuel efficiency (lower CO <sub>2</sub> emissions [upper limit] to roughly one-third between 2018 to 2030) as well as acceleration in the transition to xEVs, including HEVs (going from comprising 2% of all vehicles in 2018 to 47% of all vehicles in 2030). The inability to respond to these changes and a suspension in sales due to non-compliance with regulations could lead to a decline in revenue.	¥300.0 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>	¥90.0 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 a suspension of plant operations in Japan and Asia (where we conduct 66% of our overall production), where the possibility of floods occurring is high.	¥100.0 billion (2035)	<ul style="list-style-type: none"> <li>Implement measures to mitigate the impact of weather disasters on buildings and other structures</li> <li>Strengthen risk management in the supply chain by ensuring multiple suppliers for components and other materials, etc.</li> <li>Develop platforms that connect our plants across the globe using IT and IoT and establish a global production structure that can immediately respond to changing production needs caused by natural disasters</li> </ul>	¥8.5 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 onto all in-vehicle products, including products for internal combustion engines, due to the expansion and increasing strictness of new regulations around the globe, such as carbon taxes, emissions trading systems, and carbon border adjustment mechanisms.	¥12.0 billion	<ul style="list-style-type: none"> <li>Strategically and incrementally transition to electricity derived from renewable energy sources, which is not affected by a carbon tax, with a view to reducing CO<sub>2</sub> from energy use in our domestic and overseas manufacturing activities</li> <li>Continue to promote activities to conserve energy and enhance energy efficiency in the production process</li> </ul>	¥0.2 billion

## Major Opportunities

Key items	Timeframe / Level of impact	Major potential financial impact	Financial impact (fiscal 2026)	Response measures	Response cost (fiscal 2022)
Development of new products and services through R&D and technological innovation	Medium-term / High	<p><b>Increase in revenue due to higher demand for xEVs</b></p> <ul style="list-style-type: none"> <li>Increase in the number of xEVs in each country against the backdrop of the trend toward carbon neutrality. Rising demand for technologies such as heat pumps that improve the heat efficiency of xEVs</li> <li>Increase in revenue from the response to electrification, including inverters and thermal products related to electrification</li> </ul>	¥500.0 billion	<ul style="list-style-type: none"> <li>Accelerate the development of products related to electrification, including power-saving technologies (ejectors, heat pumps, cold storage evaporators), labor-saving technologies (two-layer flow air-conditioning units), and compact high-output technologies (inverters) as well as heat management technologies (heat storage, waste heat utilization, adsorption heat pumps)</li> <li>Promote the development of engine control systems and other technologies that respond to alternative fuel (e-fuel, hydrogen, etc.)</li> </ul>	¥80.0 billion
Diversification of business activities	Long-term / Medium	<p><b>Increase in revenue following higher demand for decarbonization technologies</b></p> <ul style="list-style-type: none"> <li>Creation of business opportunities in non-automotive fields using technologies that contribute to carbon neutrality, which were cultivated in the automotive domain, including agriculture, logistics, and FA</li> <li>Development of technologies to capture, store, and recycle CO<sub>2</sub> and aim to commercialize them by 2035</li> </ul>	<p>Agriculture and FA, etc. ¥300.0 billion CO<sub>2</sub> capture, storage, and recycling ¥300.0 billion (2035)</p>	<ul style="list-style-type: none"> <li>Create technologies such as agricultural production technologies that leverage sensor, control, robot, and bio-related technologies to the greatest extent possible and technologies such as CO<sub>2</sub> capture, storage, and recycling that leverage purification technologies for exhaust gas from automobiles</li> <li>Develop new businesses and create sales channels through proactive business alliances</li> </ul>	¥12.0 billion
Utilization of more effective production and logistics processes	Medium-term / Relatively high	<p><b>Reduced energy costs through the promotion of energy conservation at plants</b></p> <p>If we promote enhanced energy efficiency at our plants around the globe 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 1.73 million tons per year while also reducing energy costs.</p>	¥60.0 billion	Continue to engage in energy-saving activities and promote the development of energy-saving production technologies with the aim of further enhancing production process efficiency	¥16.0 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 risks and opportunities 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 set an ambitious target within our environmental initiatives to commit to becoming carbon neutral, a higher target than we have ever set before, and have reflected this commitment in our 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 vision formulated in 2016. For our *Monozukuri* activities, we have adopted the target of realizing carbon-neutral electricity by 2025 (gas will make use of carbon credits) and becoming completely carbon neutral, including with gas, by 2035. 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 renewable energy 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 commenced the introduction of internal carbon pricing (ICP) within our investment decision-making approach.

Meanwhile, 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 for all aspects of mobility. 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 (see "Message from the Chief Financial Officer" on [P58-64](#)).

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 established the new Environment Neutral Systems Development Division and the FC System Business Development Division (currently the Energy Solution 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. We are also 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.

### Examples of Initiatives

#### Receipt of Energy Conservation Grand Prize Award for 12 Consecutive Years

In fiscal 2022, DENSO received the Energy Conservation Center Chairman's Prize in the Examples of Energy Conservation Division of the Energy Conservation Center, Japan (ECCJ)'s Award Program, in recognition of the Company's efforts to reduce the amount of steam used to heat pure water for the cleaning of semiconductors by 67%, equivalent to a 491.5-kL reduction in crude oil a year, through the reuse of plant waste heat. In addition, we received the Chairman's Prize of the Agency for Natural Resources and Energy in the Products and Business Division, together with Toyota Motor Corporation, in recognition of Toyota's new FCEV MIRAI.

Since the inception of the ECCJ Award Program in fiscal 2010, DENSO has won 20 prizes in total and has won prizes for the past 12 years in a row. In particular, DENSO CORPORATION



CONTENTS	PROLOGUE	CEO MESSAGE	DENSO's Value Creation Story	Growth Strategy	Foundation for Creating New Value	Overview by Product	Corporate Governance	Corporate Data
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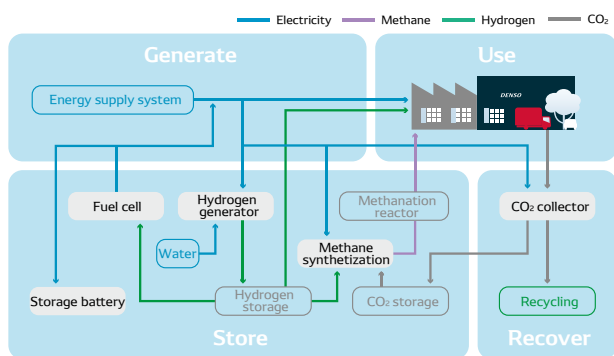
has won a total of 13 prizes in the Examples of Energy Conservation Division. Going forward, we will continue to promote activities that leverage our high level of proposal-making and improvement capabilities for energy conservation.

**Examples of Initiatives**

**Striving to Realize Carbon-Neutral Plants**

In fiscal 2022, we realized the 100% transition to renewable energy at the Anjo Plant (electricity and gas), six European bases (electricity), and one base in Asia (electricity) through the use of CO<sub>2</sub> offset certificates and carbon credits.

At the moment, we are currently working to verify energy recycling systems at our four domestic model plants, the Anjo Plant, Hirose Plant, Nishio Plant, and DENSO FUKUSHIMA CORPORATION. After completing verification tests at these plants, we will introduce these energy recycling systems at all of our 130 plants around the world and will gradually expand the promotion of energy-saving activities that make use of F-IoT and digital technologies. By doing so, we will aim to become completely carbon neutral at our plants.



**Impact on Financial Planning**

Against the backdrop of the carbon neutrality trend, it is crucial that we transition to products such as hydrogen fuel and biofuel that respond to alternative fuel needs and further strengthen our products powered by electricity. 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.

**Examples of Initiatives**

**Issuing Sustainability Bonds**

We issued sustainability bonds in order to accelerate new value creation in the domains of green and peace of mind (totaling US\$500 million). In the green domain, these bonds will be allocated to R&D and capital expenditures for products powered by electricity (BEVs, FCEVs, eVTOL [all-electric vertical take-off and landing] aircraft) as well as investments toward realizing carbon-neutral *Monozukuri* (external procurement costs of electricity derived from renewable energy sources, etc.).

**Governance**

DENSO views environmental issues, including climate change, as one of the highest priority issues (Materiality) in the promotion of its sustainability management. Accordingly, DENSO has established KPIs for these issues and is working to achieve them through its business activities. DENSO has established the Companywide Safety, Health, and Environment Committee as an organization for deliberating on and determining important items related to climate change. This committee is chaired by a representative member of the Board, who also serves as an executive vice president, and meets twice a year. At these meetings, members discuss and decide upon important items in the promotion of environmental management, such as formulating medium- to long-term targets and executing investment related to energy conservation. Items that the Companywide Safety, Health, and Environment Committee deems to have a significant influence on the Company's businesses (environmental vision, medium-term management strategies, large-scale investments, etc.) are then deliberated on by the Management Deliberation Meeting and the Board of Directors. Serving under the Companywide Safety, Health, and Environment Committee are committees in each business group and at each Group company in Japan, as well as committees in each region of operation overseas (North America, South America, Europe, China, and Southeast Asia). These committees are chaired respectively by a managing officer. Furthermore, DENSO has established energy, logistics, clean products, and production environment subcommittees. By clarifying the scope of responsibility for each subcommittee, the Company is promoting activities related to safety, health, and the environment in an efficient and highly focused manner.

Also, the Companywide Safety, Health, and Environment Committee will examine and implement the necessary procedures for sharing environmental issues such as those identified based on the results of scenario analysis. Upon doing so, these issues will be reflected in DENSO's Companywide business plans, which will be executed accordingly.

**Risk Management**

Amid the rapidly occurring changes in the business environment, DENSO is striving to ascertain the constantly diversifying risks and implementing 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 (see "Risk Management" on P.114-115).





## Metrics and Targets

In light of the progress we have made with activities based on Eco Vision 2025 and of social demands and expectations, in fiscal 2022, we adopted a more ambitious goal of becoming carbon neutral and commenced activities to reach this goal accordingly.

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 targets for becoming carbon neutral are shown in the table below. These targets have been determined in accordance with the SBT 1.5°C scenario of the Science Based Targets initiative (SBTi). Going forward, we aim to have these targets receive SBTi certification.

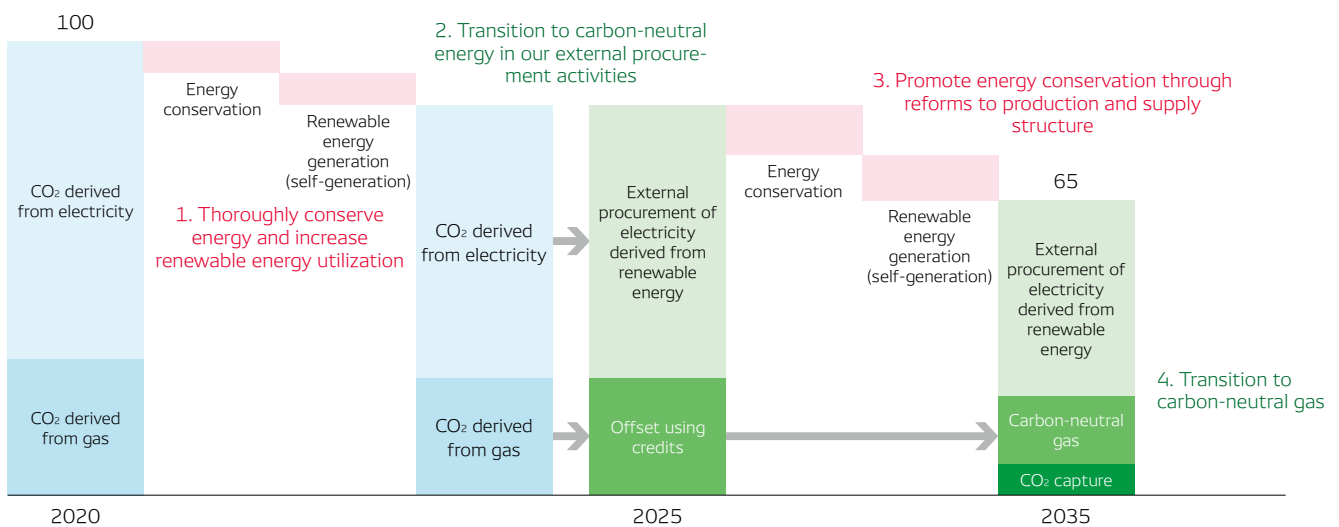
### Climate Change-related Targets (Reductions in CO<sub>2</sub> emissions)

Domain	Target (2035)
<i>Monozukuri</i>	Achieve complete carbon neutrality (including gas) (2025: Achieve carbon neutrality for electricity [utilizing carbon credits for gas])
Mobility products (electrification)	50% reduction in CO <sub>2</sub> compared with fiscal 2021*
New businesses (energy use)	50% reduction in CO <sub>2</sub> compared with fiscal 2021*

\* Base value: CO<sub>2</sub> emissions from mobility products in fiscal 2021

### Basic Strategy for Realizing Carbon-neutral *Monozukuri*

Baseline = 100



Going forward, we will continue to hold thorough examinations and comprehensively analyze the quantitative financial impact of key items as well as specific business risks and opportunities. We will then reflect the results of such analysis in our business strategies and action plans.

Please see the following URL for details on Eco Vision 2025.  
<https://www.denso.com/global/en/csr/environment-report/management/ecovision/ecovision/#/MOVIE/>



Please see the following URL for details on Environmental Action Plan.  
<https://www.denso.com/global/en/about-us/sustainability/environment/action-plan/>



Please see the following URL for details on DENSO's environmental performance data.  
<https://www.denso.com/global/en/about-us/sustainability/library/environment-data/>



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## Social and Relationship Capital

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

DENSO advances its business activities while interacting with various stakeholders. Accordingly, DENSO believes that establishing good relationships with its stakeholders and increasing its number of allies are essential parts of improving corporate value. Particularly, in the so-called VUCA (volatility, uncertainty, complexity, and ambiguity) era, where the future outlook is opaque, it has become extremely difficult for us to flexibly respond to social changes and needs on our own, and it is therefore necessary to collaborate and coordinate with a wide range of stakeholders.

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 2022 results)

Number of suppliers <b>Approx. 6,500</b>
Local procurement rate <b>Approx. 80%</b>
Number of dialogues with institutional investors (total number of companies) <b>Approx. 1,000</b>

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

#### Employees

Relationship between Social Capital, Corporate Value, and Each Other Type of Capital	Initiatives to Strengthen Relationships	Gained Value (Outcome)
<p>Enhancing employee engagement to create new value from the collective wisdom and strengths of our employees across the globe is essential to realizing the growth of DENSO.</p> <p>To that end, we hold dialogues with our employees and are promoting various initiatives to maintain and enhance employee engagement so that all employees can work with enthusiasm and fully leverage their individual capabilities. These initiatives include reforms to workstyles and personnel systems and the creation of employee-friendly work environments.</p> <p style="text-align: center;"><b>Related Capital</b> Human capital, 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 style="text-align: center;">↓</p> <p><b>Initiatives to Enhance Relationships</b> Employee awareness surveys, in-house publications and information dissemination via intranet, consultation centers (hotlines, general consultation office), social gatherings between labor and management, etc.</p>	<ul style="list-style-type: none"> <li>Enhanced employee engagement</li> <li>Improved retention rate</li> <li>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 our financial capital through the adoption of our products and services, strengthening our relationships with customers helps us with such efforts as building optimal supply structures, acquiring new technologies and know-how, and cultivating employees by having them gain business experience together with customers.</p> <p>Accordingly, we will seek to deepen our understanding of customer needs and expectations through ongoing dialogue in an effort to create products and services that satisfy our customers and truly gain their trust.</p> <p style="text-align: center;"><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> Provision of high-quality, high-performance products and services, products that contribute to the environment and products that offer peace of mind, a stable product supply, a service network with a high level of customer satisfaction, etc.</p> <p style="text-align: center;">↓</p> <p><b>Initiatives to Enhance Relationships</b> Communication within our daily sales activities, new product exhibitions, joint R&amp;D activities, establishment of new companies through joint investment, a customer consultation center, 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>To that end, we are working to strengthen our partnerships, continue to 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 and prosper together with our business partners.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Related Capital</b> Financial capital, manufacturing capital, intellectual capital, and social and relationship capital</p> </div>	<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.), and support for responding to sustainability needs (environment, human rights, etc.), etc.</p> <p style="text-align: center;">↓</p> <p><b>Initiatives to Enhance Relationships</b> Close communication with business partners, Supplier Appreciation Meeting, sustainability self-assessments, General Meeting of DENSO Service Stations, servicing skills competition, 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>To continue to operate in regions where our plants and officers are located, we need to be accepted by local communities as a good corporate citizen and realize coexistence and co-prosperity together with these communities. In addition, having employees gain experience in working to resolve issues facing local communities provides them with an opportunity to enhance their perspective of social issues that need to be addressed in our business activities.</p> <p>We will therefore seek to gain an understanding of the unique needs and expectations of local communities through dialogue. By addressing these needs and expectations, we will contribute to the development of local communities.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Related Capital</b> Human capital, natural capital, and social and relationship capital</p> </div>	<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 style="text-align: center;">↓</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, 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> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Related Capital</b> Financial capital</p> </div>	<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 style="text-align: center;">↓</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, etc.</p>	<ul style="list-style-type: none"> <li>• 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), etc.</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. Furthermore, promoting business activities that give consideration to human rights increases the number of business opportunities for the Company and enables us to acquire outstanding human resources. Such business activities also lead to improved employee engagement.

DENSO views respect for human rights as a crucial theme and has therefore established respect for human rights as one of its material issues within the promotion of sustainable management, and is undertaking efforts toward respecting human rights 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 that these policies are thoroughly shared across the Group.

Recently, initiatives toward respecting human rights in business are becoming even more important for global corporations. In this environment, we believe we need to further promote human rights-related initiatives and have therefore formulated the DENSO Group Human Rights Policy as an individual policy to address human rights issues.



Please see the following URL to view the DENSO Group Human Rights Policy.

<https://www.denso.com/global/en/-/media/global/about-us/sustainability/society/humanrights/humanrights-doc-human-rights-policy-en.pdf>



### 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 online 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.

### 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 are promoting the ongoing process of human rights due diligence to enact measures to prevent such risks and minimize their impact should they occur.

As the first step of this process, we carried out a human rights risk assessment to identify and evaluate potential human rights-related risks facing the Group with the cooperation of a third-party institution specializing in human rights. As a result of this assessment, we identified four themes for potential

human rights-related risks that have a high relationship with the Group, including “human rights of non-Japanese workers in Japan” and “complicity with forced labor in the supply chain.”

Going forward, we will carry out an impact assessment (evaluation of impact on human rights) regarding these identified themes and enact and strengthen appropriate measures and initiatives accordingly.

### Non-Japanese Workers in Japan

Human rights issues facing non-Japanese technical interns represent a major human rights-related risk that has a high relationship with the automotive supply chain.

To address these issues, we conduct written surveys of domestic Group companies and suppliers to confirm the presence of non-Japanese technical interns. Due to the existence of potential human rights-related risks, we will conduct an impact assessment to ascertain whether there are any issues that impact human rights and confirm the level of impact if so. We will then enact appropriate measures based on the results of this assessment.

### Initiatives toward Respecting Human Rights in the Supply Chain

Mining sites for mineral resources involve a substantial amount of dangerous work, and there have been reports of human rights issues at such sites, including child and forced labor. Accordingly, responsible mineral resource and raw material procurement is an extremely important theme within the supply chain.

In its Supplier Sustainability Guidelines, DENSO clearly states its commitment to conducting business activities that give consideration to human rights. To ensure that our suppliers comply with these guidelines, we promote such initiatives as requiring them to implement self-assessments and directly assisting them with improvement measures through dialogue.

Furthermore, with regard to the issue of conflict minerals, which are mined in the Democratic Republic of the Congo and surrounding countries under poor labor environments, we formulated a policy to respond to the issue of conflict minerals and share this policy with our suppliers. At the same time, we conduct a survey on conflict minerals every year, with the cooperation of our suppliers.

### 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.

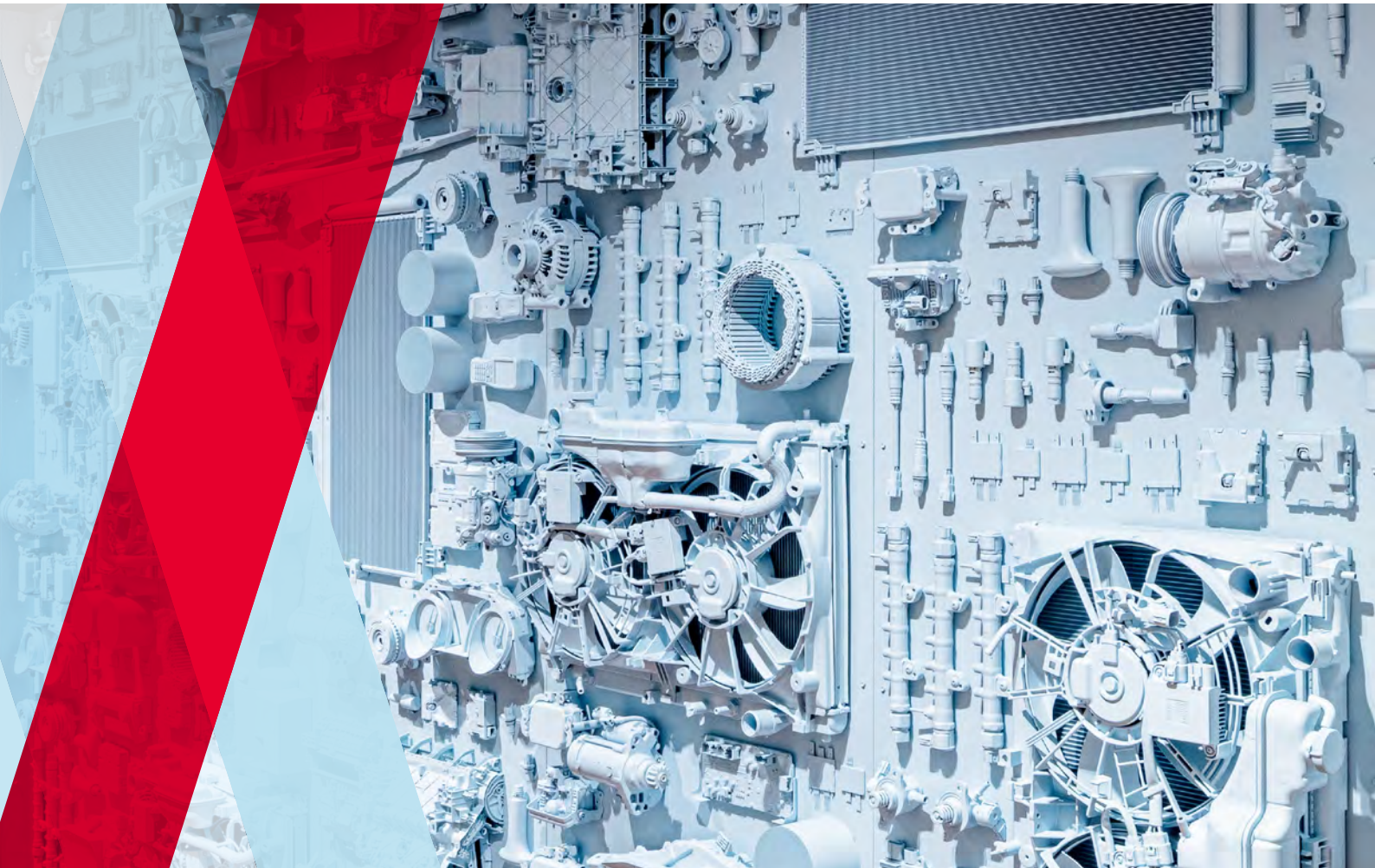


Please see the “Respect for Human Rights” section of our corporate website for more details on our human rights initiatives.

<https://www.denso.com/global/en/about-us/sustainability/society/humanrights/>







# Overview by Product

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# Business Portfolio and Value Creation

DENSO operates seven core businesses in a broad range of domains, centered on the mobility domain. The Company has established a business portfolio for creating new value that can address the future needs of the mobility society. Through this portfolio, DENSO strives to maximize value in its businesses so that it can enhance the potential of the mobility society.

In addition, DENSO will accelerate the reshuffling of its business portfolio in order to realize sustainable growth under a rapidly changing business environment.

## Business Composition and Focus Fields

In its automotive businesses, DENSO supplies an extensive lineup of products and systems as a Tier 1 supplier that is trusted by car manufacturers around the globe. We operate a total of five automotive businesses, starting with the Electrification Systems Business, which provides the key for the shift to electrification. In addition, we operate the Powertrain Systems Business, which can manufacture powertrains for all types of vehicles, and the Thermal Systems Business that manufactures such products as in-vehicle air-conditioning systems, for which we boast the No. 1 global share. We also operate the Mobility Electronics and Advanced Devices businesses, which will be crucial for mobility-related development in the future. These five businesses contribute to development in three of

our focus fields: electrification, advanced safety and automated driving, and connected driving.

Furthermore, in our non-automotive businesses, we leverage the technologies cultivated in our automotive businesses to contribute to the field of factory automation (FA) and AgTech.

Four Focus Fields: □□ P.28–29

## Value Creation in Our Businesses

In each of our seven core businesses, we contribute to development in our four focus fields and work to maximize the value of “green” and “peace of mind,” which are adopted as part of our Long-term Policy for 2030. In addition, through our business activities, we will work to achieve the targets of the SDGs and create new value for the future mobility society.

	Segment	Contribution to Long-term Policy for 2030 (Value of Green and Peace of Mind)	Revenue Ratio by Segment in Fiscal 2022 (Based on organizational structure as of fiscal 2022)	Relevant Focus Fields		Relevant SDGs
Automotive businesses	Electrification Systems	Green	20.6%	Electrification	Advanced Safety and Automated Driving	  
		Peace of Mind		Connected Driving	Non-Automotive Businesses (FA and AgTech)	
	Powertrain Systems	Green	22.6%	Electrification	Advanced Safety and Automated Driving	  
		Peace of Mind		Connected Driving	Non-Automotive Businesses (FA and AgTech)	
	Thermal Systems	Green	23.2%	Electrification	Advanced Safety and Automated Driving	  
Peace of Mind		Connected Driving		Non-Automotive Businesses (FA and AgTech)		
Mobility Electronics	Green	24.6%	Electrification	Advanced Safety and Automated Driving	  	
Peace of Mind	Connected Driving	Non-Automotive Businesses (FA and AgTech)				
Advanced Devices	Green	3.2%*	Electrification	Advanced Safety and Automated Driving	  	
	Peace of Mind		Connected Driving	Non-Automotive Businesses (FA and AgTech)		
Non-automotive businesses	Industrial Solutions	Green	3.4%	Electrification	Advanced Safety and Automated Driving	   
	Food Value Chain	Peace of Mind		Connected Driving	Non-Automotive Businesses (FA and AgTech)	

\* Sales including semiconductors (power semiconductors, ASICs, sensors, etc.) produced internally for other businesses: ¥420.0 billion

## Business Information and Main Products

### Relationship of Companywide Strategy and Business Strategies

Business strategies linked to the Companywide strategy are key to realizing the Mid-term Policy for 2025 and achieving “green” and “peace of mind” strategies. DENSO is able to provide value to society by steadily shuffling its business portfolio based on strategies for each growth business and strategies for businesses nearing their final stages, and accelerating the pace for developing and increasing sales of environmentally friendly and safe products. Leveraging its unique strengths in each business and capital resources,

	Segment	Business Activities
Automotive businesses	Electrification Systems	<ul style="list-style-type: none"> <li>■ Development and manufacture of HEV and BEV drive systems, power supply systems, and aircraft propulsion systems</li> <li>■ Development and manufacture of electric power steering motors, control brake motors, and electric control units (ECUs)</li> <li>■ Development and manufacture of various kinds of small motor system products, such as windshield wiper systems, power window motors, engine control motors, and blower fans</li> </ul>
	Powertrain Systems	<ul style="list-style-type: none"> <li>■ Development and manufacture of gasoline and diesel engine management systems, which cover everything from combustion to intake and exhaust</li> <li>■ Development and manufacture of valve-related products, such as variable cam timing (VCT) systems and exhaust gas sensors; and products for drive systems, such as oil pressure control valves</li> </ul>
	Thermal Systems	<ul style="list-style-type: none"> <li>■ Development and manufacture of air-conditioning systems for passenger and commercial vehicles</li> <li>■ Development and manufacture of air quality products, etc., that provide comfortable spaces</li> <li>■ Development and manufacture of cooling products, such as radiators and inverter coolers</li> <li>■ Development and manufacture of thermal management systems and heat pump systems</li> </ul>
	Mobility Electronics	<ul style="list-style-type: none"> <li>■ Development and manufacture of environmental products, such as engine ECUs, HEV ECUs, BEV ECUs, and body ECUs</li> <li>■ Development and manufacture of HCUs,*<sup>1</sup> meters, HUDs,*<sup>2</sup> CIDs,*<sup>3</sup> ETC*<sup>4</sup> systems for vehicles, road-to-vehicle and vehicle-to-vehicle communication devices, vision sensors, millimeter-wave radar sensors, sonar sensors, self-driving car ECUs, airbag sensors &amp; ECUs, DSMs,*<sup>5</sup> and other safety-related products</li> <li>■ Development and provision of mobility-related electronic systems and platforms</li> </ul> <p>*<sup>1</sup> HCUs: Human-machine interface control units *<sup>2</sup> HUDs: Head-up displays *<sup>3</sup> CIDs: Center information displays *<sup>4</sup> ETC: Electronic toll collection *<sup>5</sup> DSMs: Driver status monitors</p>
	Advanced Devices	<ul style="list-style-type: none"> <li>■ Development and manufacture of transmission hydraulic control valves, shift-by-wire system actuators, and other drive-related products</li> <li>■ Development and manufacture of energy management products, such as BEV/engine coolant water volume control valves</li> <li>■ Development and manufacture of microelectronic devices, such as in-vehicle power semiconductors, semiconductor sensors, and custom integrated circuits (ICs)</li> </ul>
Non-automotive businesses	Industrial Solutions	<ul style="list-style-type: none"> <li>■ Development and manufacture of industrial equipment best exemplified by our automated equipment, modules, and industrial-use robots</li> <li>■ Development and manufacture of equipment for use by society, including handy terminals and QR and RFID payment and recognition solutions, and provision of services (building access management systems, automated checkout systems for company cafeterias, facial recognition systems, etc.)</li> </ul>
	Food Value Chain	<ul style="list-style-type: none"> <li>■ Manufacture and sale of turnkey solutions* for horticultural facilities (consulting and cloud services related to greenhouse materials, devices, and cultivation) as well as the provision of after-sales services</li> <li>■ Manufacture and sale of in-vehicle refrigeration units and compact mobile refrigeration units as well as the provision of after-sales services</li> <li>■ Building and sale of systems for digitization of food distribution and data-linked services</li> </ul> <p>* A lineup of products and services combined in an optimized way to enable all people involved in agriculture to produce crops in a stable manner</p>



CONTENTS	PROLOGUE	CEO MESSAGE	DENSO's Value Creation Story	Growth Strategy	Foundation for Creating New Value	Overview by Product	Corporate Governance	Corporate Data
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each year, DENSO draws up, deliberates on and monitors specific short-, medium-, and long-term scenarios for realizing the Companywide strategy based on the current business environment and progress on strategies. Additionally, the Company is committed to reinforcing its strengths in R&D, *Monozukuri*, and *Hitozukuri* in each business. On the following pages, we introduce the results of these activities.

Core Products That Contribute to Green and Peace of Mind								● Green	● Peace of mind
								●	●
									
									
									
									
									
									



## ELECTRIFICATION SYSTEMS

### Supporting electrification in all areas of mobility to realize an enriched environment and comfortable movement

To deliver electrification systems for vehicles that are eco-friendly and enable even more comfortable travel, we have built up a solid track record with the development of electrification technologies, realizing high performance, compactness, and fuel efficiency for the major products needed for HEVs. Going forward, we will leverage our expansive business domains to form linkages between various in-vehicle systems and products in an effort to efficiently manage energy within vehicles. In this manner, we will further improve fuel efficiency and contribute to the conservation of energy.



**Jiro Ebihara**  
Head of Business Group

### Business Strengths

#### System Development Capabilities

It has become increasingly important to improve the environmental performance of vehicles as electrification intensifies. The DENSO Group offers the full range of components used in electric drive systems, the heart of electric vehicles. Our system development capabilities involve having a thorough understanding of how each hardware component in a vehicle is used and being able to incorporate that knowledge so that higher levels of performance and reliability can be realized as a whole, satisfying diverse market needs.

#### Global Production and Supply Structure

From approximately 50 bases in 19 countries including Japan, DENSO supplies high-quality products to customers around the world. Maximizing these existing assets, DENSO Manufacturing Tennessee, Inc. (DMTN) began manufacturing electrified products in 2019, followed by Tianjin DENSO Engine Electrical Products Co., Ltd. (TDS) in 2021. Looking ahead, the Company will strengthen its production and supply structure for electrified products in Europe and India, where growth is gaining momentum.

#### Manufacturing for a New Era

At our Electrification Innovation Center established at the Anjo Plant, we are rapidly and efficiently developing and introducing next-generation manufacturing technologies, such as prototyping production lines that help conserve energy and preserve the environment by restricting CO<sub>2</sub> emissions, and a CO<sub>2</sub> recycling plant on mass production lines for an adjoining electrified product plant.

### Business Strategy for 2022

DENSO is efficiently shifting management resources to electrified product businesses by accelerating the reorganization of businesses nearing their final stages. We intend to expand electrified product businesses by quickly adding products to our lineup that address global and customer needs as society becomes more electrified in a bid to become carbon neutral.

<b>Growth Strategy</b>	Amid the accelerating movement toward BEVs, DENSO has been steadily adapting to Toyota Motor's electrification strategy that will be the basis for future development. The Company is creating new business models while expanding its product lineup in order to increase sales to existing and new automakers in Europe, the United States, and China. In China, a key market, DENSO will commit more resources than before and improve ties with its Chinese partners.
<b>Strategy for Businesses Nearing Final Stages</b>	For businesses nearing their final stages, DENSO is efficiently restructuring production and supply structures, including consolidating production facilities, while maintaining the quality demanded by its customers and fulfilling its responsibility to supply products. As a part of these efforts, in June 2022, the Company moved its alternator and starter operations to the Powertrain Systems Group and stepped up business activities.
<b>R&amp;D</b>	DENSO aims to enhance the value of electric-powered mobility, from compact distribution vehicles to passenger cars and large distribution vehicles, through a combination of software and hardware in power supplies and electric drive systems, while concentrating on motors and electric drive control technologies that magnify the competitiveness of its components for electric vehicles. At the Electrification Innovation Center established at the Anjo Plant in April 2020, we aim to rapidly commercialize new businesses through fast-paced development integrating mass production trials.
<b>Monozukuri</b>	Through production reforms, DENSO is expanding its production and supply structures in tandem with the quickening shift to electrified products. The Company aims to become carbon neutral at an early stage through the use of methane gas generated from CO <sub>2</sub> in production processes (as of 2021), as well as the installation of hydrogen composition facilities, such as SOFCs*1/SOECs*2 and power conditioning with storage batteries and EVs (as of 2022).
<b>Hitozukuri</b>	DENSO is accelerating the reassignment of personnel to growth businesses while reorganizing businesses nearing their final stages. We are training personnel to take an active role in new businesses while working to resolve social issues along with customers in a world of diversifying needs.

\*1 Solid oxide fuel cells

\*2 Solid oxide electrolyzer cells

## Outcome of Green and Peace of Mind Strategy

Objectives	Results
Reinforce development structure and expand lineup of electric drive products	Completed lineup in Core & Customization Strategy for electric drive systems. Launched System Engineering Department and strengthened the overall structure of the energy management system
Advance development of new green businesses	Developed new motors for electric-powered aircraft with Honeywell. Began to develop high-voltage battery packs for BEVs
Promote CO <sub>2</sub> -neutral plants	Commenced operations at facilities to generate methane gas at CO <sub>2</sub> recycling plant

### Efforts toward Quality

One of our most important business assets is our reputation for quality in markets where we have continued to deliver large volumes of products around the world. Sharing this knowledge with customers, we are able to guarantee the quality of our electrified products, which must never have severe defects because they are depended upon by AI-driven vehicles. We are also enhancing our ability to respond to sudden changes in the business environment while ensuring the quality of existing products, such as by rapidly adopting alternative parts and materials as a part of our BCP that has become increasingly important today.

### Specific Initiatives to Achieve Strategic Aims Shift to Electrified Product Businesses and Expansion of Production and Supply Structures

DENSO is accelerating business restructuring in mature products in order to effectively utilize existing assets while rapidly and efficiently shifting them to growth businesses.

DMTN (North America) and TDS (Tianjin) have commenced production of inverters and motor generators in growth businesses. In January 2022, DENSO transferred the type III alternator business to Chengdu Huachuan Electric Parts Co., Ltd.,

which had been receiving technical support from DENSO for a while. In addition to restructuring production bases in Japan and overseas, DENSO will accelerate the shift of resources to growth fields while fulfilling its responsibility to supply products and advancing collaboration with partners.

### Diversifying Markets, Responding to Faster Growth in BEVs

To realize its growth scenario, DENSO is expanding its lineup of electrified products based on its Core & Customization Strategy for its standardized product line. In January 2022, Toyota Motor's new NOAH and VOXY models began to feature our new high-power and compact inverters that reduce loss in battery power by 20% compared with previous products. DENSO commenced mass production of electricity supply units (ESUs) with functions for charging, power conversion, and power distribution for Toyota Motor's bZ4X model in May 2022 and for Subaru's Solterra model in mid-2022.



ESU (Electricity supply unit)

## Resolving Social Issues through Our Businesses

Relevant SDGs



### Contributing to a Sustainable Mobility Society with Electrification Technologies

DENSO is developing electrification technologies that support all forms of electric-powered mobility, from compact distribution vehicles to passenger cars and large distribution vehicles.

In a joint initiative with Honeywell International Inc., a long-time alliance partner, the Company newly developed an electric motor for electric-powered aircraft that do not emit CO<sub>2</sub> while ensuring a quiet and comfortable flight. Our electric motor was adopted for use in an eVTOL (all-electric vertical take-off and landing) aircraft being developed by Lilium N.V. of Germany.

This aircraft is a form of air mobility that solves the issues of congestion in urban areas, the emission of CO<sub>2</sub>, and access to

suburban areas and outlying regions far away from core transportation lines via a high-speed direct transportation network. The electric drive motor that has been selected for this aircraft is a safe and environmentally conscious system that is compact and lightweight thanks to innovative design, and it does not emit exhaust gas when operating.

For the air mobility field, DENSO will apply its electrification technology and high-quality mass production technology amassed in products for vehicles in the automobile industry. By reapplying technologies it refines in the aircraft business to the automobile industry, we aim to contribute to a sustainable mobility society.

## POWERTRAIN SYSTEMS

### Balancing the joy of life with vehicles with superior environmental performance—Providing solutions that help overcome this seemingly contradictory task

We will reduce the environmental burden of vehicles to the greatest extent possible and respond to the diversification of fuel and various environmental regulations, which are becoming stricter by the year. We will also work to supply high-quality systems and components. By doing so, we will strive to create and deliver new value in order to contribute to society as a whole.



Hisashi Iida  
Head of Business Group

### Business Strengths

#### R&D Capabilities That Have Led Development of World-First Products and Advanced Powertrains

DENSO has mass-produced a number of world-first products, such as common rail systems and a product that directly injects fuel in diesel internal combustion engines, while pursuing greater environmental performance in vehicles. Our core technologies and development capabilities also contribute to the expansion of options for carbon-neutral powertrains, such as hydrogen and biofuel engines.

#### Highly Reliable Manufacturing Technologies That Facilitate Safe Driving of Vehicles

To enable the high-performance driving of vehicles, DENSO has refined its highly reliable manufacturing technologies that are integrated from materials preparation to molding and sintering, as well as its technologies for high-speed assembly and highly complex and precise processing at the micron level. DENSO aims to sharpen its technological edge further by fusing together cutting-edge AI and digital technologies with robots and its accumulated skills and manufacturing knowledge.

#### Personnel, Masters of Powertrains, Form Organically Coordinating Organizational Capabilities

In order to create vehicles with automakers that can satisfy tough environmental regulations and withstand harsh operating environments, professionals with a wide range of core technologies and skill sets work together from a vehicle perspective, while deploying advanced organizational capabilities to leverage specializations in all areas, from systems to components.

### Business Strategy for 2022

DENSO is streamlining businesses nearing their final stages in the internal combustion engine domain, and creating new energy businesses.

<b>Growth Strategy</b>	<p>To realize a green society, DENSO is accelerating and strengthening activities (in carbon-neutral fuels, etc.) to commercialize businesses in the new energy domain.</p> <ul style="list-style-type: none"> <li>• DENSO is increasing choices for carbon-neutral powertrains compatible with new energy sources (hydrogen, bio-fuels, synthetic fuels, etc.) in order to create carbon-neutral vehicles.</li> <li>• DENSO contributes to the proliferation of carbon-neutral vehicles by coordinating with energy companies in the infrastructure and aftermarket service fields.</li> </ul>
<b>Strategy for Businesses Nearing Final Stages</b>	<p>Amid the global trend in electrification, progress on electrification differs in each region and country, in a reflection of the energy mix and how vehicles are used.</p> <p>To realize a sustainable mobility society and provide to customers safe and secure products for internal combustion engines, DENSO is envisioning scenarios and drawing up plans for businesses nearing their final stages in the internal combustion engine domain.</p> <ul style="list-style-type: none"> <li>• With the aim of maintaining and improving the competitiveness of internal combustion engine products as an industry, DENSO is thinking beyond corporate boundaries and examining the transfer of businesses to ideal partners.*</li> </ul> <p>* On January 17, 2022, DENSO signed an agreement to transfer its fuel pump module business to Aisan Industry Co., Ltd.</p> <ul style="list-style-type: none"> <li>• Amid significant changes in markets, DENSO is optimizing its production structure by realigning global production bases and creating flexible production lines able to manufacture multiple products depending on the volume of demand.</li> </ul>
<b>R&amp;D</b>	<p>Despite uncertainties about how energy will be used in the future, in order to accelerate the commercialization of new energy businesses, DENSO has drawn up a medium- to long-term energy vision and top-level strategies to guide the optimal allocation of resources and to consolidate and integrate related organizations. The Company is focusing on the development of products that solve issues related to new energy, such as using hydrogen resources.</p>
<b>Monozukuri</b>	<p>DENSO is combining its accumulated on-site knowledge and the latest digital technologies to outline concepts for production lines able to stay competitive in a bid to realize production lines that are able to flexibly manufacture multiple products in accordance with changes in demand.</p>
<b>Hitozukuri</b>	<p>In order to smoothly match human resources to growth domains and shift power, we are visualizing specializations in a diverse range of core technologies and skill sets, while pivoting from product-based to skills-based career formation. Moreover, we are defining the areas where our refined skills can be leveraged inside and outside the Powertrain Systems Group. We aim to create organizations that are full of optimism and excitement for the future.</p>

## Outcome of Green and Peace of Mind Strategy

Objectives	Results
Set policy for streamlining businesses nearing their final stages in the internal combustion engine domain, and begin coordinating with industry players and stakeholders	DENSO is working with its customers to transition away from older products with high environmental impact and adopt higher-grade models. We have started to realign and consolidate global operations in the internal combustion engine domain with the aim of building an efficient production structure while eyeing the maturing business domain for internal combustion engines and its eventual contraction.
Create business concepts in new energy domains	DENSO has created concepts for businesses and products for new energy sources (hydrogen, biofuels, synthetic fuels, etc.), and it has launched projects to develop and commercialize new businesses in each domain through internal and external collaboration.

### Efforts toward Quality

We have positioned the restoration of our quality as our top priority issue and are working to build a corporate structure that prevents quality-related issues in the market. To that end, in specialized divisions, we have gathered together human resources who can handle quality in a comprehensive manner, covering everything from systems to components. These divisions engage in efforts that span from investigating the true causes of quality-related issues to reproducing problems to determine a resolution. To respond to tightening regulations on fuel performance and exhaust gas as well as the increasing complexity of environmental stress, these divisions will accelerate and improve the accuracy of quality verification measures through digital engineering and model-based development and virtual vehicle evaluations.

### Specific Initiatives to Achieve Strategic Aims

#### Aiming to Solve Environmental and Social Issues by Advancing Technologies and Skills Inherited from Our Predecessors

The replacement of internal combustion engine vehicles with BEVs will accelerate in the movement toward a carbon-neutral environment and society. Even in 2040, however, worldwide demand for internal combustion engine vehicles will probably be at the same level as in 2000. We have a responsibility to continue delivering to our customers high-quality products for internal combustion engines in an affordable and reliable manner. The type of energy used differs by region, depending on geopolitics and energy security, so it is necessary to increase choices for mobility solutions.

With this in mind, DENSO is engaging in the three following activities.

- (1) As part of a scenario for businesses nearing their final stages, DENSO has started to create plans for fulfilling its responsibility to supply products for internal combustion engines along with the rest of the industry, while maintaining a business foundation and putting into place a system for ensuring safe quality products through "Reborn21." We will continue to shift toward growth domains with the resources (personnel and cash) freed up from businesses nearing their final stages while reforming work processes under the banner of "green" and "peace of mind."
- (2) While collaborating and coordinating with partners in co-creation, DENSO is rapidly internalizing the core technologies needed to solve issues concerning the environment and greater society, and is breathing life into new businesses that will increase choices for becoming carbon neutral.
- (3) DENSO is redefining the skills of human resources and the nature of work in the future, and is training professionals to fulfill its principles. We conduct a thorough vetting process and carefully interview each and every person before sending them off to work. We strive to create bright work environments where everyone is passionate about their work, and both young and veteran employees can refine their technologies and skills in businesses nearing their final stages, while everyone works together to make dreams a reality.

## Resolving Social Issues through Our Businesses

Relevant SDGs



### Promoting Eco Factory Activities on a Path to Carbon Neutrality

To realize carbon-neutral manufacturing, DENSO has updated its injector plant within the Zenmyo Plant. This update has created a plant able to more efficiently manufacture products in a pleasant atmosphere, while cutting energy consumption by 50%.

- (1) A Just-in-Time (JIT) system that thoroughly conserves energy  
Instead of the previous air-conditioning system for entire buildings, the Company has created a system that air-conditions the necessary areas at the necessary times in the necessary amounts. Natural skylights and solar panels on the roof of the plant have cut energy usage for manufacturing in half.

- (2) Improvement in productivity (+20%) by consolidating production lines and doing away with partitions within the plant  
By switching to optimized area-based air-conditioning and controlling the airflow throughout the plant, the Company was able to get rid of traditional clean rooms. Productivity was greatly improved as a result of consolidating production lines and work.



Zenmyo Plant



## THERMAL SYSTEMS

### Contributing to a more pleasant society for the earth and its people by solving heat-related issues faced in a mobility society

With the arrival of a carbon-neutral society and the CASE era, the automotive industry is undergoing a paradigm shift. Amid this shift, the Thermal Systems Business Group is working to leverage its strengths as a leading-global thermal systems supplier to the greatest extent possible to help create the society of the future through heat management systems, which resolve issues related to BEVs, such as extending driving range, and products that improve air quality, which create comfortable vehicle interiors.



**Yasuhiko Yamazaki**  
Head of Business Group

### Business Strengths

#### Thermal Management Technology

There are three issues hindering the proliferation of BEVs, namely, driving range, battery degradation, and recharging times. To solve these issues—i.e., to extend driving range, inhibit battery degradation, and shorten recharging times—it is necessary to solve a variety of heat-related issues, such as saving electricity used in air-conditioning and managing the temperature of batteries. DENSO provides optimal solutions for managing the thermals of vehicles with the Thermal Systems Business Group's thermal management technologies and lineup of world-first products, as well as system controls that combine these two.

#### Moving from Quantity to Quality Manufacturing

DENSO has fulfilled its responsibility to supply products while constantly evolving the manufacturing of products in the Group with advanced automated production lines, standardized from design to process, and synchronized direct manufacturing for zero intermediary inventories. As products for thermal management systems become more diverse and complex, we are shifting from the mass production of standardized products to the small-lot production of many varieties of products, and further evolving our manufacturing structure into one that does not depend on volume.

#### Global Network

Since the establishment of DENSO (Thailand) Co., Ltd. in 1972, the Thermal Systems Business Group has addressed the needs of customers around the world through nine technical centers and more than 50 production bases in 26 countries. We will tackle new issues with customers in the CASE era while using our robust network built up over 50 years.

### Business Strategy for 2022

DENSO is reshuffling its portfolio of thermal management products for BEVs from its lineup of internal combustion engine products. The Company is creating a high-earnings business structure while striving to realize a carbon-neutral society.

<b>Growth Strategy</b>	DENSO aims to establish de facto standards and unique technologies in the future, completing its modular concept for thermal management systems while cornering the market during the BEV proliferation phase by meeting the diverse needs of automakers for heat pump systems.
<b>Strategy for Businesses Nearing Final Stages</b>	DENSO is concentrating on shaping up growth scenarios and utilizing its assets (people, technology, and supply networks) built up with identified resources, while accelerating the streamlining of businesses nearing their final stages (existing products for internal combustion engine vehicles, such as radiators and capacitors), in addition to withdrawing from older products and transitioning production.
<b>R&amp;D</b>	In addition to the knowledge accumulated by the Thermal Systems Business Group, DENSO is utilizing the wisdom of the entire company, industry and academia, accelerating the development of new businesses. The Company is helping to increase the speed of vehicle development with more efficient development processes based on MBSE* to deal with the growing complexity and diversity of vehicle development, as competition heats up on the electrification front. <small>* Model Base System Engineering (MBSE): An approach that aims to increase the efficiency of the development process through digital simulation that leverages accumulated data and know-how in systems development</small>
<b>Monozukuri</b>	DENSO is creating a flexible manufacturing system able to produce a large variety of products in smaller quantities, reducing economic units through compact process designs relative to the increase in system combinations with its lineup of products for thermal management systems.
<b>Hitozukuri</b>	DENSO is reinforcing its structures for creating thermal management systems, training human resources in software able to control complex systems entirely, in addition to its mechanical product knowledge and thermal technologies. While exchanging human resources around the world, we are creating the foundations for diverse human resources to maximize the use of their experiences and knowledge in special improvement activities led by senior personnel.
<b>Reinforcing Our Business Foundation</b>	While maintaining a slim posture attained during the pandemic, the Company is increasing its responsiveness to change in an uncertain business environment, while rebuilding its production supply structure to take into account country risk. While identifying industry issues such as rising costs (transportation and materials) due to a deterioration in conditions, we aim to rightsize our supply chain and continue to fulfill our responsibility to reliably deliver products.

## Outcome of Green and Peace of Mind Strategy

	Objectives	Results
Green	Finish thermal management system strategy for future growth, expand market by increasing sales of heat pump systems	The Company's heat pump systems have been adopted by automakers in Japan and around the world, including for Mitsubishi Motors' Outlander and Renault's Megane models, while solving problems from the vehicle development phase. We also defined the product lines and technologies needed to solve heat-related issues we identified in BEVs. We formulated strategies while exploring theoretical solutions with cutting-edge development partners, including Toyota Motor and other automakers.
Peace of mind	Bring to market air quality products that offer peace of mind in car interior environments	DENSO introduced on the market air cleaning equipment for buses and taxis to satisfy needs for higher air quality due to the pandemic. In addition to automakers, we obtained feedback from end-users and will use this information to expand our products that offer peace of mind.

## Efforts toward Quality

DENSO aims for a fresh start in true quality through concurrent engineering that integrates processes from design to manufacturing with DX, and to improve gate management on a global basis, going beyond product quality to encompass work quality throughout the entire process, from initial flow to mass production.

## Resolving Social Issues through Our Businesses

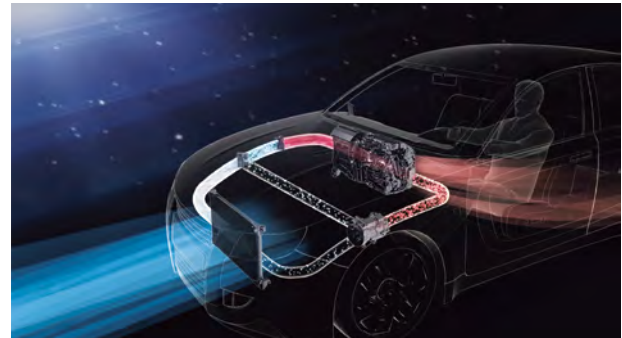
Relevant SDGs



### Contributing to the Proliferation of BEVs with Thermal Management Systems

BEVs are key to becoming a carbon-neutral society. One barrier to their proliferation is driving range. Electrical energy consumed for heating is one factor that reduces driving range. DENSO's heat pump systems use heat in the air as a thermal source for heating, thereby reducing the consumption of electrical energy and greatly extending driving range.

Moreover, thermal management systems that use heat pumps enable the efficient adjustment of temperatures in vehicles and the cooling of batteries, facilitating the proliferation of BEVs with inhibited battery degradation and shorter recharging times.



Heat pump system

### Specific Initiatives to Achieve Strategic Aims

#### Expanding Sales of Thermal Management Products

DENSO is developing markets for its thermal management systems by solving heat-related issues in BEVs with automakers by proposing a wide range of products and systems. As a recent



High-efficiency eco heat pump system

achievement, our high-efficiency eco heat pump system, a world-first product, was adopted in Toyota Motor's bZ4X model and Subaru's Solterra model in 2022. We aim to expand sales for BEVs around the world.

#### Enhancing Response to Diversifying BEV Market

In August 2021, DENSO turned Chongqing Chaoli Electric Appliance Co., Ltd. into a consolidated subsidiary in order to realize its growth scenario. In addition to reinforcing our product lineup and supply structure, we are expanding our points of contact with customers, including local automakers in China and emerging automakers from other industries, and strengthening operations in China, a leading market for BEVs, while addressing new needs.

# MOBILITY ELECTRONICS

## Realizing a society in which all people can move comfortably and with peace of mind (Quality of Mobility)

DENSO helps realize zero traffic fatalities and carbon neutrality by continuing to introduce products in tune with the times, using its software and electronics technologies (sensors, semiconductors, ECUs), while precisely understanding the needs of users and advances and changes in society brought about by the CASE revolution.



**Shinnosuke Hayashi**  
Head of Business Group

### Business Strengths

#### Ability to Create Large-Scale Integrated Systems from an All-Vehicle Perspective

Needs for electronic systems in the CASE era are evolving into large-scale systems that integrate and coordinate power-trains, bodies, chassis, cockpits, advanced driver assistance systems (ADAS), and other single-domain control systems. DENSO has experience in all of these systems. We create compelling products from an all-vehicle perspective with a broad range of technological capabilities.

#### Product Development Capabilities with Reliability and Sophistication Accumulated in Automotive Products

Automotive products must feature high quality and performance in order to be able to operate in harsh environments under various constraints. We have been engaged in the automotive electronic products business for many years, ever since vehicles began to become more electronic, and we have accumulated extensive knowledge of vehicles as a result. DENSO develops competitive products through a combination of this knowledge with the latest electronics and software technologies.

#### Global Network

DENSO has honed its human capital, intellectual assets, and a global production structure by overcoming numerous obstacles with automakers around the world. Using these strengths, we provide various solutions to automakers while refining our CASE-related technologies, moving the world one step closer to a safe and secure mobility society that is easier on the environment.

### Business Strategy for 2022

DENSO helps realize zero traffic fatalities and carbon neutrality with its capabilities in electronics and software, aiming for a safe and secure mobility society that is better for the environment.

<b>Growth Strategy</b>	Through “green” and “peace of mind,” DENSO aims to balance business growth with efforts to resolve social issues by providing high-value vehicle integration applications for users, while refining ADAS and electronic control systems that are becoming increasingly important amid the CASE revolution. The Company is solidifying structures resilient to change by delving deeper into reforms to work processes through DX that was kicked off with “Reborn21.”
<b>Strategy for Businesses Nearing Final Stages</b>	We are devising strategies for businesses nearing their final stages while fulfilling our obligations to our customers, identifying businesses that fall outside our creed of “green” and “peace of mind” as a part of portfolio management, and products with singular functionality that are becoming commodities. Using the capabilities derived from these strategies, we are shifting power to business domains with excellent growth prospects and profitability with even higher value for users.
<b>R&amp;D</b>	DENSO is accelerating the development of electronic platforms to make software-defined vehicles (SDVs) a reality in the CASE era, by thoroughly refining omnidirectional sensing technologies, algorithms, and control technologies to improve the user experience (UX). We are developing highly competitive products, such as systems and components for self-driving cars, in preparation for an advance into the self-driving car market, and reinforcing our development processes with DX and automation on both the software and hardware fronts.
<b>Monozukuri</b>	DENSO is reinforcing its competitiveness in <i>Monozukuri</i> with a lean and flexible structure that features digital-twin plants and multi-generation, high-speed mixed production lines. DENSO is building an optimized supply structure around the world that facilitates the movement toward carbon neutrality, while responding to rapidly expanding production volume globally as automotive electronics become more sophisticated.
<b>Hitozukuri</b>	We are developing our human resources with the aim of grooming professionals with the ability to turn ideas into reality, raising individual abilities through innovative careers for employees who are experts in software and electronics. We aim to sharpen our technological capabilities across control functions and rapidly maximize performance. Our career support systems for individual employees facilitate the reallocation of personnel across organizations through human resource visualization.

## Outcome of Green and Peace of Mind Strategy

Objectives		Results
Green	Develop electrical, low-power consumption control systems for achieving carbon neutrality	Ramped up development of low-power ECUs and electronic control systems that help lower power consumption, and electronic platforms that minimize energy usage by optimally integrating controls of all vehicle systems
Peace of mind	Develop advanced driving support technologies with the aim of zero traffic fatalities	Developed and brought to market Global Safety Package 3, a concept that balances compactness and low costs, with expansion in accident prevention and driving assistance functions

### Efforts toward Quality

Automotive software is becoming more expansive, sophisticated, and complex following the advancement of the CASE revolution. Under these circumstances, we aim to realize a more robust quality control structure by reforming processes at the initial development stages for large-scale software development, leveraging synergies within the Mobility Electronics Business Group, which has streamlined our electronics and software development functions. Based on an approach that prioritizes safety and quality above all else, we will prevent the recurrence of quality-related issues.

### Specific Initiatives to Achieve Strategic Aims Strengthening Competitiveness in Priority Domains and Accelerating Business Growth

DENSO is prioritizing the development of the following products in the fields of "green" and "peace of mind."

- Green: Development of ECUs and software necessary for electric vehicles
- Peace of mind: Development of high-value-added product lines that work with ADAS and human-machine interface (HMI), based on precision information processing

- Integrated electronic platform that leads to greater value in "green" and "peace of mind" fields: Development of electronic platform that facilitates optimized actions among applications

#### Strengthening Software Business and *Hitozukuri*

DENSO balances the development of human resources (*Hitozukuri*) on the cutting edge of change with business growth in the software field.

- We are introducing ideal development models incorporating cutting-edge IT in software development methodologies accumulated in automotive products.
- We are greatly strengthening our human resources, organizations, and corporate culture by establishing a systematic management cycle and career development process, which was implemented in fiscal 2022.

#### Building an Optimal Supply Structure and Strengthening Manufacturing Competitiveness

DENSO is improving its competitiveness while building an optimal global supply structure able to respond to sharp growth in production volume of electronic products amid advances in CASE technologies.

- Consolidate/Create series for easy-to-manufacture product structures
- Finish building digital-twin plants

## Resolving Social Issues through Our Businesses

Relevant SDGs



### Global Safety Package 3

#### Helping Improve Safety Performance of Vehicles with Millimeter-wave Radar and Vision Sensors

We developed Global Safety Package 3 as an accident prevention system and launched it in fiscal 2022.

Global Safety Package 3 is a system that assists drivers with a combination of millimeter-wave radar sensors that detect the position and speed of vehicles and objects on the road and vision sensors that use cameras to observe conditions in front of the vehicle.

In order to eliminate traffic accidents while ensuring freedom of movement, it is important to develop products with attractive prices while further advancing safety products with cutting-edge technologies, and then deploying these products in as many vehicles as possible. Global Safety Package 3 realizes both compactness and low costs, while expanding assistance scenarios through the use of cutting-edge technologies, such as AI.

We are developing technologies with the objective of ensuring safe freedom of movement for drivers, pedestrians, and everyone else in the world.



#### Millimeter-wave Radar Sensors

Our millimeter-wave radar sensors help vehicles avoid collisions at intersections, such as with oncoming vehicles when turning right, or with pedestrians crossing the street when turning left or right, thanks to a wider angle and longer distance of object detection, and improvements in the speed of analysis functions. With the aim of installing these radar sensors in a variety of vehicles, we are working to improve detection performance and make the radar sensor more compact and lightweight, thereby lowering the hurdles to installing the sensors in vehicles.



#### Vision Sensors

Our vision sensors help vehicles avoid collisions in intersections thanks to a wider horizontal view angle. This wider angle of view also enhances cruise control functions that maintain distances with the vehicle in front and when changing lanes, while increasing the distance a vehicle can detect objects. We are improving object detection capabilities with AI in a bid to expand functionality to vehicle distance maintenance assistance and traffic signage recognition assistance.



## ADVANCED DEVICES

### Creating and growing businesses that solve issues faced by society and customers beyond the mobility domain

As a company reorganized to go beyond technologies and focus more on helping society and our customers, we are 1) collaborating on the sensing and actuation fronts, and 2) enhancing the value of systems through semiconductors that leverage our strengths derived from vertical integration. While creating new devices and systems, we aim to win the trust of our customers with an all-points approach to quality, cost, and delivery (QCD) in the expanding electrification market.



Yoshifumi Kato  
Head of Business Group

### Business Strengths

#### Creation of New Value with Sensing and Actuation

Within the business group, our core technologies in actuation (i.e., hands and legs) are combined with semiconductors (i.e., brains) and sensing (i.e., eyes) to create new devices and systems based on nimble concepts, enabling the development of “great-if-possible” solutions for issues faced by our customers.

#### Leadership That Drives Collaboration with Partners and External Production Contractors, in Addition to Internal Production of Semiconductors

In preparation for expansion in the electrification market, DENSO will internally produce Si and SiC power semiconductors that are key devices with world-first technologies. We will guide our supply chain to make the necessary improvements to cost competitiveness and supply capabilities.

#### On-Site Capabilities That Support Production Technologies Highly Resilient to Changes in Specifications and Volumes in New Product Domains

DENSO is broadening the scope of applications for new product domains where it is competitive, thanks to human resource development and handpicked young employees. DENSO leverages digital-twin technology and collaborative robots to build a production system that can be optimally organized and configured by changing production line shapes and locations in accordance with fluctuations in volumes for new products.

### Business Strategy for 2022

DENSO contributes to the creation and proliferation of the next generation of mobility solutions by building robust supply chains and improving its internal production of mechatronics and semiconductors. At the same time, we are using and deploying core technologies in non-automotive fields, such as agriculture and factory automation, to address issues related to carbon neutrality, labor shortages, and an aging society.

<b>Growth Strategy</b>	DENSO aims to create new businesses, products and solutions, with the help of external partners and other business groups, going beyond the capabilities of its own business groups to solve problems at customers. Moreover, the Company is leveraging its strengths derived from vertical integration to spur growth and improve the value of systems for the DENSO Group with its semiconductor capabilities.
<b>Strategy for Businesses Nearing Final Stages</b>	We decide to continue operations after reviewing each product, centered on products for internal combustion engines, from the standpoints of whether we can continue to reliably supply quality products, whether we can maintain and improve competitiveness, and whether core technologies may tie in with new domains. When we decide to discontinue products, we make sure our customers are able to continue operations as our businesses near their final stages. We will continue to offer other products that align with our <i>Monozukuri</i> capabilities while eyeing carbon neutrality from the manufacturing to use stages.
<b>R&amp;D</b>	DENSO aims to create new systems and devices that solve problems from a market-oriented perspective, going one step beyond <i>Monozukuri</i> that satisfies required customer specifications. The Company aims to offer new solutions for problems at customers and in society as a whole by fusing together components, software, and AI technology.
<b>Monozukuri</b>	DENSO develops and invests in production lines able to switch product types and volumes by sharing equipment in new domains with uncertainties that make it hard to anticipate volumes. The Company is concentrating skills and technologies on reforms to <i>Monozukuri</i> processes with the use of collaborative robots and digital-twin technology to facilitate workstyle reforms and alleviate labor shortages at production sites.

## Outcome of Green and Peace of Mind Strategy

Objectives	Results
Expand lineup of individual products and advance entire projects in the CASE domain	Made steady progress toward commercialization by promoting new product concepts for the fields of electrification and safety
Reduce investments in products for internal combustion engines	Avoided major investments while gaining understanding of customers in contracting businesses for products used in internal combustion engines
Accelerate activities at head office and Group companies to reduce CO <sub>2</sub> emissions at plants	Began to shape up plans for conserving and creating energy at the Hirose Plant and DENSO HOKKAIDO CORPORATION

### Efforts toward Quality

We are taking steps to ascertain quality-related risks that cannot be understood based on a product's required specifications alone by running simulations of how customers use our products and considering customer perspectives. We are also building quality into our highly reproducible product design and manufacturing processes at Group bases in Japan and around the world, in order to ensure equal quality in all of our products globally. All of us are working diligently to get a fresh start on quality by preventing quality-related risks from materializing and never forgetting our "Customer First" approach.

### Specific Initiatives to Achieve Strategic Aims

#### Collaborative Production in Automotive Power Semiconductors

In April 2022, in order to meet growing demand for automotive semiconductors amid the rapid development and proliferation of electric vehicles, DENSO signed an agreement to collaborate

on the production of power semiconductors at the 300-mm wafer plant operated by United Semiconductor Japan (USJC), the Japanese subsidiary of United Microelectronics Corporation, a leading chip foundry. Through this partnership, DENSO aims to produce high-performance power semiconductors with high cost efficiency by combining USJC's 300-mm wafer production technologies with DENSO's system-oriented IGBT\* device and process technologies, with plans to launch IGBT production on 300-mm wafers in the first half of 2023. This initiative was selected by the Ministry of Economy, Trade and Industry for subsidies to cover the cost of projects for decarbonizing and upgrading production facilities for semiconductors essential to supply chains. This initiative aligns with the government's strategy to reinforce the production of semiconductors in Japan, and will contribute to the electrification of vehicles through the reliable procurement of power semiconductors that are essential in electrification efforts.

\* IGBT = Insulated gate bipolar transistor

## Resolving Social Issues through Our Businesses

Relevant SDGs



### Contributing to Improvements in the Practicality of Electric Vehicles

DENSO has successfully developed and mass-produced the world's first high-efficiency cooling water control valve (MCV-e) as a prime example of the efficient control and use of thermal energy. Reducing energy consumption can result in longer driving distances for electric vehicles, shorter recharging times, and lower system costs. Our products including a new electrical current sensor, featuring a 40% smaller size with better current detection accuracy for detecting the discharge and charge current in batteries, have been adopted by Toyota Motor in its bZ4X model and by Subaru in its Solterra model. Our next-generation power modules with SiC diodes and SiC transistors are 30% smaller in volume and reduce power loss by 70% compared with previous products. These power modules have also been adopted by Toyota Motor for its new MIRAI model. We will continue efforts to offer products that help realize a carbon-free society.



MCV-e



Electrical current sensors



SiC power cards

## INDUSTRIAL SOLUTIONS

### Enhancing the productivity of the *Monozukuri* industry and improving quality of life

Our mission in the Industrial Solutions Business Unit is to realize carbon-neutral *Monozukuri* (manufacturing) from the perspective of “green,” and to build a society that expands human potential from the perspective of “peace of mind.” Guided by this mission, we will work to earnestly address the *Monozukuri*-related issues facing our customers, providing them with solution packages that resolve such issues in a manner that best suits their needs. By doing so, we will make significant contributions to industrial and social progress.



**Katsuhisa Shimokawa**  
Head of Industrial Solutions  
Business Unit

### Business Strengths

#### Production Assets Thoroughly Refined at Manufacturing Sites and Global 130 Plant

Using our high-quality, highly durable facilities that have been refined on auto part production lines, as well as our core factory automation equipment, such as robots and sensors, we are playing a role in improving productivity throughout the manufacturing industry and society at large while spreading our reach from standalone equipment to processes and modules.

#### *Monozukuri* Know-How That Has Supported DENSO's Products for More Than 70 Years

DENSO solves serious issues directly affecting the manufacturing industry, such as labor shortages, carbon neutrality and DX, with its know-how in flexible and lean manufacturing and lean automation technologies.

#### Safe and Secure Solutions for Society Using QR Codes Developed by DENSO

DENSO creates value for new domains and applications by incorporating outside ideas for using QR codes and QR code reader technologies that have been evolving since 2000 and which have become an international standard (ISO/IEC 18004).

### Business Strategy for 2022

In addition to lean automation, DENSO is commercializing eco-friendly *Monozukuri*. We strike a balance between business growth in non-automotive fields and the business principles for lean and clean *Monozukuri*.

<b>Growth Strategy</b>	With the aim of spreading lean automation, we are working closely with our customers to come up with ideas for flexible and lean automation, including getting involved in process engineering. We are also utilizing open platforms co-created with partners and scaling up business by leaving behind the idea of being self-sufficient.
<b>R&amp;D</b>	DENSO is concentrating on the development of next-generation technologies to realize clean and lean <i>Monozukuri</i> based on carbon neutrality, digital-twin plants, and collaborative robots to address serious issues faced by the manufacturing industry. The Company is accelerating industry–government–academia activities to further spread DENSO's concept of next-generation plants.
<b><i>Monozukuri</i></b>	Leveraging its strengths in factory automation equipment and facilities provided by the Industrial Solutions Business Unit (i.e., products that are thoroughly proven, improved, and refined with DENSO's Global 130 Plant concept, and then delivered to customers), DENSO is improving productivity while being in touch with customer needs and always providing high-quality production assets.
<b><i>Hitozukuri</i></b>	DENSO develops a broad spectrum of human resources adept in digital technologies that are essential for next-generation manufacturing, such as digital-twin and open platforms, as well as human resources that excel in providing solutions (sales engineers) and are able to precisely propose ideas that combine know-how with technologies owned by DENSO to solve issues faced by customers.

## Outcome of Green and Peace of Mind Strategy

Objectives	Results
Spread awareness of lean automation around the world (15 companies)	Inside the plants of 15 customers that took our courses on lean automation, we together achieved several improvements in operations based on the concept and skill sets of lean automation.
Increase partners for co-creation of open platforms (40 companies)	We agreed to co-create an open platform with 47 partner companies that share our concept of lean automation and solutions to rationalize plants.

### Efforts toward Quality

In the Industrial Solutions Business Unit, when DENSO commercializes production assets that have supported its “Quality First” approach to the automotive business, we build in quality in the facilities desired by our customers (shorter preparation times, stable operations soon after launching mass production, ability for anyone to maintain conditions, easy-to-use facilities). DENSO is driving improvements in productivity across the manufacturing industry with its production assets, thoroughly refined via on-site verification and iterative improvements.

### Specific Initiatives to Achieve Strategic Aims Initiatives to Spread Lean Automation

Needs are constantly increasing for rapidly ramping up production and the manufacture of diverse types of products in various volumes in domains where labor plays a large role, such as assembly, inspection and logistics, as a means to reduce CO<sub>2</sub> emitted from plants and to address labor shortages in an aging population.

DENSO has developed and begun selling solutions for rationalizing plants with DX-CELL\* and other products that have been expanded for enabling lean automation. In fiscal 2023, the Company accelerated activities to propose improvements across a broader spectrum of operations, and added to its lineup a newly developed robot called COBOTTA PRO that boosts productivity while working alongside people. We are

also actively engaged in industry–government–academia partnerships to spread DENSO's concept of lean automation.

\* DX-CELL is a robot universal mount platform able to flexibly adapt to variable-volume production of different types of products with modular additions, including by third parties, thereby facilitating the rapid design of precisely automated production lines using DX tools.

**People working alongside COBOTTA PRO**



- This robot looks, thinks, and moves on its own, automating work that could only be done by hand
- Saves space by making safety cages unnecessary, as robot moves slowly when people are nearby

**DX-CELL facilitates variable-volume production of different types of products**



- Able to work with prototypes, small-lot production, mass production, and production wind-downs
- Can be deployed at necessary time to necessary location, only with a software update

## Resolving Social Issues through Our Businesses

Relevant SDGs



### Aiming to Resolve Regional Issues by Collecting Data on QR Code Usage

DENSO has provided QR code solutions that match diverse customer needs in the railway, retail/wholesale, and hotel industries. By using the collected QR code data more universally, we intend to expand services to new domains and applications.

For example, DENSO is cooperating with companies in Tendo City, Yamagata Prefecture (DMC Tendo Onsen Co. and Yamako Bus Corporation) to promote the creation of attractive tourist destinations. Together, we tested the “Gururi” Tendo City bus routes to improve accessibility to tourist spots and enhance transportation convenience. With DENSO's QR code application, DENSO and Tendo City can gather data on tourists' travel history, i.e., when and where they traveled and for what purpose, and use this data to increase the efficiency of tours while satisfying the needs of tourists.

DENSO is helping to revitalize regional activities through the visualization of a broader range of data on people's movements, including restaurants, hotels and shopping, through the use of QR codes.





## FOOD VALUE CHAIN

### Combining technologies and ideas to provide new value and contribute to a society where all people can live safely and with peace of mind

Food is essential to human life. Together with our business partners, while observing the entire food value chain, we will provide solutions that deliver food safety and security to each region of the world, anytime, anywhere, and to anyone, forever.



**Hidehiro Yokoo**  
Head of Food Value Chain Business Development Division

### Business Strengths

#### Greenhouses That Ensure Reliable Harvests While Dealing with Labor Shortages and Climate Change

By applying our *Monozukuri* technologies gained with automobiles to agricultural production, we are supporting technologies that condition environments for reliably harvesting agricultural products. We introduce automation technologies to create environments where people can move around easily, and globally supply solutions for greenhouses in a highly productive way that sustains growth.

#### High-Quality, Versatile Chillers for Vehicles That Help Deal with Driver Shortages and Delivery Diversification

Since the launch of operations for automotive chillers in 1972, DENSO has sold more than 200,000 chiller units, focusing on high-quality, high-efficiency *Monozukuri*. In addition to chillers for trucks, which come in many variations, we offer compact mobile chillers that can be nimbly used for deliveries by regular drivers in passenger cars for small-lot deliveries that have diversified in recent years.

#### New Distribution DX Solutions for Changing Needs in Food Distribution

Utilizing the QR code and RFID technologies we accumulated with automobiles, we are digitizing diverse information related to food in order to visualize food distribution information from production to sale, in response to consumer needs for safe and secure food. We also offer a straight-through food distribution platform that facilitates supply-demand optimization in inefficient distribution operations and rightsizes inventories.

### Business Strategy for 2022

Together with our internal and external partners, we are starting to truly expand business, creating a structure for global business development and the provision of solutions that resolve social issues.

#### Growth Strategy

While eyeing a sustainable society able to produce and transport food needed around the world, DENSO is creating optimal and advanced solutions with its proprietary technologies to resolve social issues in the food value chain.

In the agricultural production business, along with greenhouse business partner Certhon Build B.V., DENSO is developing business in innovative greenhouses that leverage its automation technologies, while adapting to social needs in each region. In Japan, we are stepping up efforts to stimulate local industry with greenhouses able to reliably produce agricultural products with workers of all skill levels.

In logistics-related business, working with partners, DENSO is creating new solutions that leverage its strengths in chiller technologies for newly emerging types of logistics for small-lot deliveries that require temperature management, an area where demand is likely to expand along with the e-commerce market.

Utilizing DX in food distribution, we aim to create a distribution system that increases the efficiency of supply chains while ensuring traceability to safely and securely deliver food to consumers. Working with our partners, we are testing prototypes in actual markets while moving to introduce the system in the future.



Collaboration with Certhon Build B.V.

#### R&D

Aiming for smart agriculture, AgriD Inc. (established in 2018 with Asai Nursery, Inc.) is advancing verification testing of production systems and automation technologies for creating a new model for agricultural production where people work alongside machines.



AgriD Inc.

## Outcome of Green and Peace of Mind Strategy

Objectives	Results
Win orders for greenhouses in Japan	Proposed solutions combining optimal products tailored to customer needs and obtained orders from agricultural producers
Commence trials of compact mobile chillers for markets other than parcel delivery	Won orders from food companies
Commence market trials of QR traceability system	Finished market trials with partners for increasing distribution efficiency

### Efforts toward Quality

We will realize optimized levels of quality and service in the field of horticultural facilities, drawing on the quality control methods that we have cultivated for many years in our automotive businesses. In addition, with the aim of ensuring the stable supply of safe food throughout the entire food value chain, we will collaborate with other companies within all processes from food production through to distribution and consumption to establish the necessary quality control methods for maximizing the value we offer to customers.

### Specific Initiatives to Achieve Strategic Aims

#### Contributing to Regional Revitalization with Local Governments for Carbon-Neutral Agriculture

In Date City, Hokkaido, in a bid to revitalize the region through agriculture, DENSO constructed a newly developed multi-wing interconnected greenhouse for training workers and verification testing of a smart farm that uses IT. The greenhouse features an innovative forced-air ventilation system that creates uniform, stable agricultural conditions within the greenhouse, and DX functions enable the rapid training of new farmworkers. Plans call for using natural energy in the greenhouse, such as wood pellets made from local resources. We plan to begin construction on the greenhouse in summer 2022 and start verification testing with vegetable production in the city from fiscal 2024.

DENSO will contribute to the revitalization of the region by advancing agriculture initiatives in Date City, Hokkaido while training new workers in the community.

#### Contributing to Regional Revitalization with Local Private Companies in Agriculture

Village Development Inc. is a real estate company in Aichi Prefecture that began growing mini tomatoes in September 2022 with DENSO's *Profarm T-cube* forced-air ventilation greenhouse. It is seeking to hire new farmworkers in the region with plans to sell the harvested mini tomatoes at farm-to-table markets in local communities. By using DENSO's *Profarm T-cube*, airflow inside the greenhouse can be controlled better than a conventional greenhouse, creating uniform and stable agricultural conditions within the greenhouse. With *Profarm T-cube*, we are helping companies enter the agricultural business.

DENSO will continue to contribute to regional revitalization by expanding the agricultural business further with Village Development.



*Profarm T-cube*

## Resolving Social Issues through Our Businesses

Relevant SDGs



### Contributing with Systems to Improve Local Agricultural Brands with Local Governments

DENSO is working to improve the recognition of local agricultural brands, namely, short-necked asari clams farmed in Kumamoto Prefecture. DENSO participates in Kumamoto Prefecture's newly launched public-private organization, the Locally Farmed Asari Value Chain Improvement Council, and is working on verification testing of innovative systems built for providing local production guarantees and traceability in production channels for asari clams.

Kumamoto Prefecture issues local production certificates for asari clams caught by local fishermen, and consumers can use QR codes to verify this certification, which facilitates the dissemination of information on locally produced foods in a proper manner. DENSO contributes to food safety and security by supporting the creation of traceability systems from production to sale.



DENSO's QR codes scanned for information on source of local production



Local production certificate issued by Kumamoto Prefecture



# Corporate Governance

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## Corporate Governance

### Basic Stance

DENSO recognizes the establishment of corporate governance as a priority initiative for achieving sustainable long-term increases in corporate performance in a fast-changing global market. Based on its Basic Policies on Corporate Governance, DENSO has adopted a corporate auditor system under which it has established the General Meeting of Shareholders, Board of Directors, Audit & Supervisory Board, and Accounting Auditors as statutory bodies. In addition to these legal functions, the Company has established various governance-related frameworks. At the same time, the Company provides information regarding its business conditions to its shareholders and other investors on an ongoing basis, thereby implementing sound, efficient, and transparent management.



Please see the following URL for Basic Policies on Corporate Governance.

<https://www.denso.com/global/en/-/media/global/about-us/sustainability/governance/management/management-doc-corporate-governance-policy-2021-en.pdf>



### Efforts to Improve Corporate Governance

DENSO is working to evolve its corporate governance and enhance strategic discussions Companywide to realize sustainable increases in corporate value even amid a dramatically changing world. DENSO has implemented all of the principles of the Corporate Governance Code that was revised in June 2021. DENSO discloses in its Corporate Governance Report its sustainability initiatives and efforts to ensure diversity in core personnel.

Going forward, we will continue to implement sound, efficient, and transparent management including through the significant reduction of cross-shareholdings.

### Evolution of Corporate Governance Structure

(Fiscal year)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Number of officers	52	50	51	53	56	28	27	25	23	
Number of members of the Board	14	13	13	9	7	8	8	8	8	
Number of outside Board members	2	2	2	2	2	3	3	3	3	
Number of female members of the Board						1	1	1	1	
Number of Audit & Supervisory Board members	5	5	5	5	5	4	4	4	4	
Number of outside Audit & Supervisory Board members	3	3	3	3	3	2	2	2	2	
Number of female Audit & Supervisory Board members						1	1	1	1	
Basic Policies on Corporate Governance		June 2015 Formulated								
Separation of management and execution	June 2014					April 2019	January 2021			
		<ul style="list-style-type: none"> <li>Separated and clarified the roles between members of the Board, who are responsible for management (decision-making and supervision), and senior executive directors (newly established position) and executive directors, who are responsible for the execution of business operations</li> <li>Appointed outside Board members</li> </ul>				<ul style="list-style-type: none"> <li>Changed title of "senior executive director" to "senior executive officer"</li> <li>Changed title of "executive director" to "executive officer"</li> </ul>	<ul style="list-style-type: none"> <li>Integrated the positions of executive officer, executive fellow, and senior director into the role of senior director</li> </ul>			
		June 2016				January 2020	March 2021			
			<ul style="list-style-type: none"> <li>Established the Officer Nomination and Compensation Advisory Council, comprising independent outside Board members, as an ad-hoc committee that corresponds to the Nomination Committee and the Compensation Committee</li> </ul>			<ul style="list-style-type: none"> <li>Appointed independent outside Board member as the chair of the Officer Nomination and Compensation Advisory Council</li> </ul>	<ul style="list-style-type: none"> <li>Changed the name of the Officer Nomination and Compensation Advisory Council to the Executive Nomination and Remuneration Council, adopting a new structure under which independent outside Board members make up the majority and an independent outside Board member serves as chair</li> </ul>			
			April 2017					January 2021		
			<ul style="list-style-type: none"> <li>Reduced the number of appointed members of the Board</li> <li>Changed the timing of appointment of officers from the date of the General Meeting of Shareholders in June to April, which is the beginning of the fiscal year</li> </ul>					<ul style="list-style-type: none"> <li>Changed the appointment timing of senior executive officers and senior directors to January in conjunction with the changes to our Companywide organization and position structure</li> </ul>		



## Corporate Governance System

### Corporate Governance System and Principal Organizations

DENSO has adopted a corporate auditor system under which it has established the General Meeting of Shareholders, Board of Directors, Audit & Supervisory Board, and Accounting Auditors as statutory bodies. Through a vice president and corporate officer system that separates and clarifies the roles between members of the Board, who are responsible for management (decision-making and supervision), and senior executive officers, who are responsible for the execution of business operations, DENSO CORPORATION is streamlining the number of members of the Board and is realizing swift decision-making and business operations.

Under this system, depending on the circumstances, members of the Board serve concurrently as vice president and senior executive officer to ensure that the Board maintains an overall balance of knowledge, experience, and ability. DENSO CORPORATION sets the term of office for members of the Board at one year, with the aim of building a flexible management structure that responds to changes in the management environment and further clarifying management responsibility during the business year.

### Reason for Selecting Our Current Corporate Governance System

In addition to performing management decision-making that emphasizes *Genchi Genbutsu* (on-site verification), DENSO believes that it is important to build a system that can verify whether management decision-making has met shareholder expectations and whether there is a problem from the point of view of governance. Accordingly, we believe that the current system to supervise and audit the execution of business duties by the Board of Directors including outside Board members, as well as Audit & Supervisory Board members including outside Audit & Supervisory Board members, is most suitable.

### Board of Directors

The Board of Directors resolves matters stipulated by laws and regulations, as well as matters of importance to the Company's decision-making. Where possible, the Board delegates authority to those in charge of business execution. This approach simultaneously accelerates execution and enables the Board to spend more time deliberating on management policies and strategies.

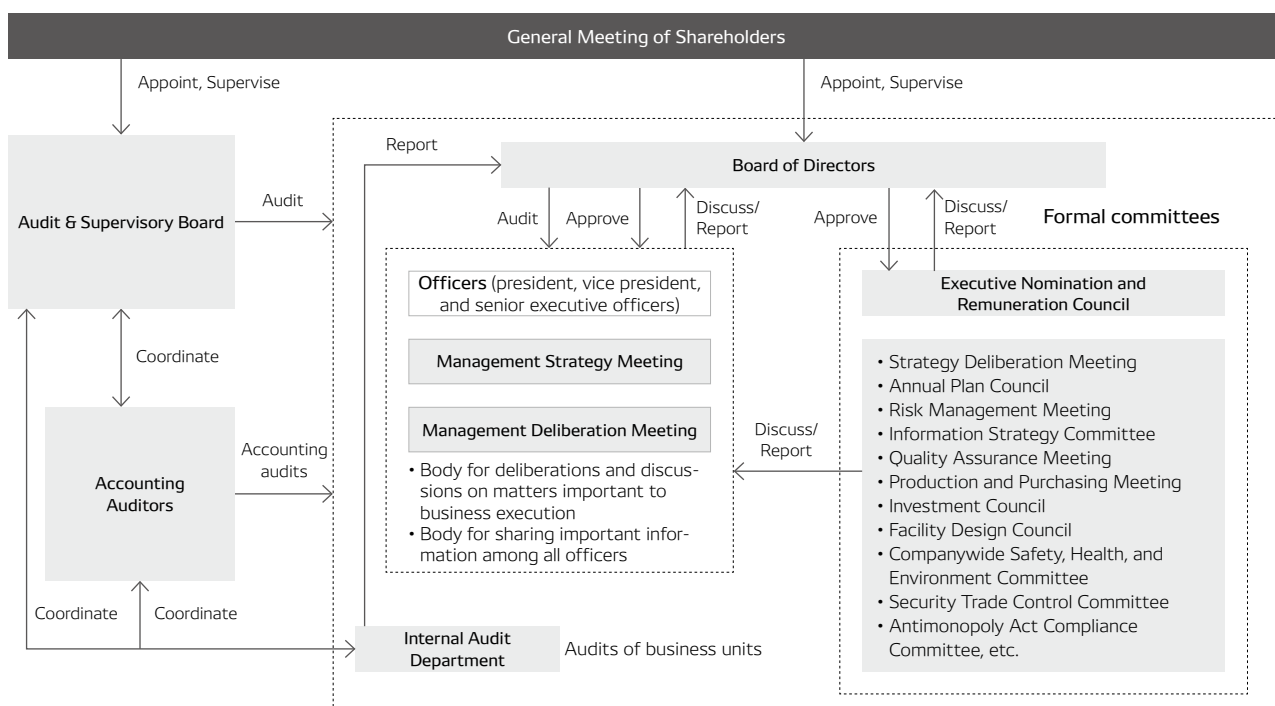
The Board of Directors meets once a month, in principle, and is composed of 12 members: eight members of the Board (including three outside Board members), two inside Audit & Supervisory Board members, and two outside Audit & Supervisory Board members. With respect to the independence of outside Board members and outside Audit & Supervisory Board members, the Company has selected a total of five independent officers (three outside Board members and two outside Audit & Supervisory Board members) based on the assumption that they fulfill the independence criteria stipulated by the Financial Instruments and Exchange Act.

Resolutions must be approved by a majority of the members present at a Board of Directors' meeting, and the meeting itself must be attended by a majority of members of the Board. We have been enhancing our support structure for the outside officers to ensure the productive and efficient operation of the Board of Directors when making resolutions.

### Results of Board Meetings Held in Fiscal 2022

Number of meetings held	12
Attendance rate	Members of the Board: 98% Audit & Supervisory Board members: 100%

## Corporate Governance System



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### Support Structure for Outside Officers

When holding Board meetings, we provide outside Board members and outside Audit & Supervisory Board members with explanations on important agenda items before the meetings with the aim of ensuring access to information between the inside and outside officers and maximizing the performance of our outside officers. In this way, we make concerted efforts to ensure the efficient operation of Board meetings. Furthermore, discussions on medium- to long-term strategies are enhanced with the holding of the Executive Workshop that includes outside officers, as well as on-site visits, to deepen their understanding of operations.

In addition, we have established the Audit & Supervisory Board Office as an organization dedicated to supporting the Audit & Supervisory Board members in conducting their duties. The office reports the condition of audits at meetings of the Audit &

Supervisory Board. Additionally, we hold meetings twice a year between the Audit & Supervisory Board members and the outside Board members to exchange opinions, in addition to regular meetings of the Independent Officer Meeting. Through these means, we are striving to actively provide information to our outside officers as well as invigorate communication between them.

### Structure for Business Execution

DENSO CORPORATION separates the functions of the Board of Directors, which conducts management oversight, and the executive directors, who handle business execution.

As bodies for deliberating important matters pertaining to business execution, the Company has established the Management Strategy Meeting and the Management Deliberation Meeting. These two bodies, together with the Board of Directors, are positioned as executive committees.

### Overview of Deliberating Bodies on Business Execution

	Deliberating Bodies	
	Management Strategy Meeting	Management Deliberation Meeting
Chairperson	President	Vice president
Composition	President, vice president, the heads of each business group and functional department, general managers, and Audit & Supervisory Board members	President, vice president, the heads of each business group and functional department, general managers, and Audit & Supervisory Board members
Purpose	Hold strategic discussions from a medium- to long-term perspective, focused on businesses, functions, and regions	Deliberate on important items related to the Company's overall management, starting with the agenda items at meetings of the Board of Directors. In addition, sharing important information regarding business management and promptly utilizing such information to facilitate swift business execution
Number of meetings held in fiscal 2022	34	41

### Management Oversight Function

Two inside Audit & Supervisory Board members and two outside Audit & Supervisory Board members with dedicated staff are responsible for monitoring the execution of duties by members of the Board as well as the business operations and financial conditions of the Group.

In accordance with in-house regulations, the Internal Audit Department conducts internal audits on the legality, validity, and efficiency of the Company's operations. Based on the issues pointed out in these audits, each department of the Company is working to establish and subsequently enhance operational control and management systems. Audit & Supervisory Board members attend important meetings including meetings of the Board of Directors and audit Board members' execution of their business duties through the exchange of information with the Internal Audit Department and Internal Control Department, as well as with the Accounting Auditors, thereby fulfilling their management oversight function.

### Analysis and Evaluation of the Effectiveness of the Board of Directors as a Whole

DENSO has all Board members take a survey involving an evaluation of the operation of the Board of Directors, the agenda items discussed, the process for making resolutions, and support for outside officers. The Company also holds interviews with the inside officers with the aim of obtaining the frank opinions of Board members regarding issues and areas in need of improvement. The results of these surveys and interviews are discussed by the outside officers at meetings of the Independent Officer Meeting.

The issues and areas identified as needing improvement are reported to the Board of Directors and put through a PDCA cycle for planning and implementing improvement activities among meeting attendees. This helps enhance the effectiveness of the Board of Directors.

## Review of Initiatives in Fiscal 2022

Of the following activities, the results of the effectiveness evaluation survey for fiscal 2022 were better than the results for fiscal 2021.

Fiscal 2021 Issues	Results of Fiscal 2022 Initiatives
Enhancement of discussion and communication • Increase opportunities for communication outside of Board meetings	• Held events for exchanging opinions among inside members of the Board, outside Board members, and outside Audit & Supervisory Board members
Role and responsibilities of the Board of Directors • Medium- to long-term policies are decided by the Board of Directors • Properly delegate authority	• The Board of Directors decided the Mid-term Policy for 2025 based on discussions at the Executive Workshop that included outside Board members and outside Audit & Supervisory Board members • Accelerated decision-making by revising rules for business decisions
Operation of the Board of Directors • Enhance the exchange of opinions during meetings held online	• Updated environment to support more lively communication during online meetings of the Board of Directors • Revised questions on the effectiveness evaluation survey to make it easier to identify issues (added questions about strategic discussions, medium- to long-term strategies, and dialogues with stakeholders)
Support for outside officers • Enhance the understanding of DENSO's businesses through on-site observation • Share information on monthly business status, etc.	• Restarted and enhanced on-site tours and inspections (Electrification Innovation Center, domestic Group companies, DENSO Heritage Center) • Distributed materials used at meetings of the Management Deliberation Meeting and complemented such materials with explanations before meetings

## Issues and Improvement Measures for Fiscal 2023

DENSO aims to improve the effectiveness of the Board of Directors by implementing improvement measures for the following issues in fiscal 2023.

Fiscal 2022 Issues	Fiscal 2023 Measures for Improvement
Operations of the Board of Directors • Few comments made by people other than those designated by chair	• Enhance and augment briefings prior to meetings of the Board of Directors • Continue and augment on-site tours and inspections
Support for outside Board members and outside Audit & Supervisory Board members • Eliminate information gap with inside members of the Board and inside Audit & Supervisory Board members	• Disclose information about important matters in a timely manner (improve information sharing before Board of Directors' meetings) • Enhance reporting, explanations, and discussions outside of Board of Directors' meetings (Independent Officer Meeting, etc.) • Support understanding of business with ongoing and improved on-site tours and inspections
Oversight by the Board of Directors • Enhance ideas for improving corporate value • Deepen strategic discussions	• Put strategic discussions on agenda for Board of Directors' meetings • Take advantage of opportunities outside Board of Directors' meetings to deepen strategic discussions (Executive Workshop, Independent Officer Meeting, etc.)
Dialogue with stakeholders • Enhance discussions and reporting from perspective of stakeholders	• Report on dialogues with wide range of stakeholders, including customers, suppliers, investors and local communities, and enhance discussions from multiple angles

## Approach to Balance and Diversity among Members of the Board and Audit & Supervisory Board Members

The Board of Directors consists of members who are familiar with the management of each business and its pressing issues. The composition of the Board strikes a strong balance between expertise, experience, skills, and global perspectives, including those of the outside Board members. For the Audit &

Supervisory Board, the Company selects persons who possess knowledge related to not only business management but also finance, accounting, and law. In this way, the Company aims to achieve a balance between diverse opinions and secure the necessary level of expertise to ensure that the Board of Directors functions properly.

## Policy and Procedures for the Appointment of Members of the Board and Audit & Supervisory Board Members

Policy	Without consideration of gender or age, nominate members of the Board and Audit & Supervisory Board members with an emphasis on diversity, including gender and internationality, and from the viewpoint of striking a balance between experience, skills, and expertise so as to promote accurate and swift decision-making.
Procedures	<ol style="list-style-type: none"> <li>• The president and relevant members of the Board listen to opinions based on various perspectives and select suitable candidates to serve as a member of the Board of Directors, comprehensively taking into account their background, personality, insight, and other factors. The Executive Nomination and Remuneration Council, which is chaired by an independent outside Board member and also has a majority of independent outside Board members serving as its members, then holds debate on these candidates and lists the candidates for selection for the current fiscal year.</li> <li>• Members of the Board are selected based on an informal resolution by the Board of Directors and deliberation at the General Meeting of Shareholders. • Audit &amp; Supervisory Board members are selected based on an informal resolution by the Board of Directors and deliberation at the General Meeting of Shareholders, with the consent of the Audit &amp; Supervisory Board.</li> </ol>

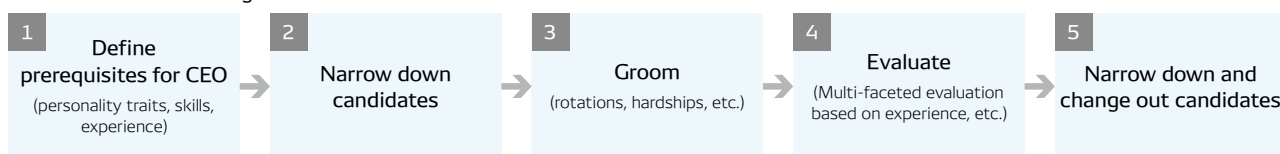
## CEO Succession Plan

DENSO regards succession planning for the CEO as one of its most important management issues, and the Executive Nomination and Remuneration Council is leading the search for its next CEO. A majority of members and the chair of DENSO's Executive Nomination and Remuneration Council are independent outside Board members, and also include Audit & Supervisory Board members. This composition offers greater diversity, impartiality, and fairness.

The Executive Nomination and Remuneration Council defines the prerequisites for CEO desired by DENSO while considering

changes in the business environment. Ongoing discussions regarding the search for the best successor cover various information about the candidates and related assessments, which are conducted by people inside and outside the Company, such as their past achievements and work histories, personality traits, and suitability for management positions. In addition, for CxO positions and below, DENSO identifies candidates for the succession of key core management posts inside and outside Japan and grooms these candidates from medium- and long-term perspectives.

### CEO Succession Planning Process



### Composition of Executive Nomination and Remuneration Council

Chair	Shigeki Kushida	Independent Outside Board Member
Members	Koji Arima	President & CEO, Representative Member of the Board
	Shingo Kuwamura	Standing Audit & Supervisory Board Member
	Yuko Mitsuya	Independent Outside Board Member
	Joseph P. Schmelzeis, Jr.	Independent Outside Board Member

### Activities of Executive Nomination and Remuneration Council

The Executive Nomination and Remuneration Council met nine times in fiscal 2022 with 100% participation by council members. The main topics discussed are as follows.

- First meeting: Compensation amounts for fiscal 2022, bonus amounts for fiscal 2021
- Second meeting: Compensation amounts for fiscal 2022, bonus amounts for fiscal 2021, succession plans for outside officers, change in officers in June 2021
- Third meeting: Structure of Executive Nomination and Remuneration Council
- Fourth meeting: Succession plans for outside officers and the CEO
- Fifth meeting: Skill matrix, succession plan for CEO
- Sixth meeting: Change in officer system in January 2022, skill matrix, succession plan for CEO
- Seventh meeting: Reforms to officer compensation system
- Eighth meeting: Change in officer system in June 2022, reforms to officer compensation system
- Ninth meeting: Change in officers in April 2022

## Outside Board Members and Outside Audit & Supervisory Board Members

Outside Board Members	Reason for Appointment	Attendance at Meetings of the Board of Directors (Fiscal 2022)
Shigeki Kushida*	Shigeki Kushida has the experience of having led diverse activities toward the development and stability of the Japanese economy at Japan's central bank, which serves as the center of the Japanese economy, by filling the posts of Director-General and Executive Director of the Bank of Japan. He currently serves as Director, Representative Executive Officer & President at Japan Securities Finance Co., Ltd. The Company has appointed him as an Outside Board Member in the expectation that he will continue to apply his broad expertise in the global monetary economy in the Company's management.	12/12
Yuko Mitsuya*	Yuko Mitsuya has an abundance of experience and knowledge in many fields, having long been in management at several corporations and associations and filling the posts of officer and committee member at several sports associations, in addition to education and training experience at universities. She currently serves in such positions as Outside Director, The Fukui Bank, Ltd.; Outside Director (Audit and Supervisory Committee Member), ENEOS Holdings, Inc.; and President, Japan Basketball Association. The Company has appointed her as an Outside Board Member in the expectation that she will continue to apply her abundance of corporate management-related expertise and experience in human resource training in the Company's management.	12/12
Joseph P. Schmelzeis, Jr.*	Joseph P. Schmelzeis, Jr. has a wealth of experience in management, particularly in the service industry, including SEGA CORPORATION, as well as in venture business start-ups and strategic consulting. He has worked to strengthen the U.S.-Japan alliance as Senior Advisor to the Ambassador, U.S. Embassy in Tokyo. He currently serves as Executive Manager at Cedarfield Godo Kaisha. The Company has appointed him as an Outside Board Member in the expectation that he will reflect in the Company's management his abundant business experience and knowledge of geopolitics.	—/— (Appointed in June 2022)



Outside Audit & Supervisory Board Members	Reason for Appointment	Attendance at Meetings of the Board of Directors and Audit & Supervisory Board (Fiscal 2022)
Yasuko Goto*	Yasuko Goto has a broad range of experience as an administrator for the Ministry of Land, Infrastructure, Transport and Tourism as well as the Vice Governor of Yamagata Prefecture, the head of the JNTO New York Office, and the Managing Director of Kyushu Railway Company. She also has abundant insight on finance, accounting, and legal compliance as she currently serves in such roles as Director and Audit & Supervisory Committee member at Kyushu Railway Company and external Audit & Supervisory Committee member at Shiseido Company, Limited. The Company has appointed her as an outside Audit & Supervisory Board member in the expectation that she will leverage her extensive experience and insight in the Company's auditing activities.	Board of Directors 12/12 Audit & Supervisory Board 15/15
Haruo Kitamura*	Haruo Kitamura serves as Chief of Kitamura Certified Public Accountant Office. He has vast experience in corporate management at many corporations in addition to his extensive career and considerable knowledge as a certified public accountant. The Company has appointed him as an outside Audit & Supervisory Board member in the expectation that he will leverage his deep insight related to accounting and his years of experience in corporate management in the Company's auditing activities.	Board of Directors 12/12 Audit & Supervisory Board 15/15

\* Independent officers

### Criteria for Judging the Independence of Outside Board Members and Outside Audit & Supervisory Board Members

With respect to the independence of outside Board members and outside Audit & Supervisory Board members, assuming that they fulfill the independence criteria stipulated by the Financial Instruments and Exchange Act, they must possess a wealth of experience and knowledge in specialized areas such as

corporate management, law, accounting, and finance and are required to be able to proactively make proposals, suggestions, and give opinions about management issues. The Company declares that five outside officers who meet the qualifications for independent member of the Board and Audit & Supervisory Board member are independent officers.

## Executive Compensation

### Policy for Determining Remuneration, Etc.

The Board of Directors' meeting held on March 8, 2021, approved a policy for determining the remuneration of members of the Board, based on deliberations by the Executive Nomination and Remuneration Council, on which independent outside Board members form a majority.

At the Board of Directors' meeting held on May 23, 2022, it was decided that this policy will be revised with the intention of further incentivizing members of the Board in accordance with the following basic policy.

#### Key Revisions to Policy for Determining Remuneration

- With the aim of further incentivizing members of the Board to improve corporate earnings and share more value with shareholders, the ratio of basic compensation, which was about 60% of the total remuneration, shall be reduced and the ratio of share-based compensation shall be increased.
- ROIC and sustainability score shall be added as metrics, in addition to corporate earnings, for determining performance-linked compensation with the objective of increasing corporate value by reinforcing the earnings structure and encouraging sustainability management. Additionally, the standard for consolidated operating profit shall be changed from the fixed amount of ¥320 billion to the fiscal year target for each business year.
- Compensation based on individual performance, which had been  $\pm 10\%$  of total compensation, shall be increased to encourage individual members of the Board to produce results.

### Basic Policy

- Achieve medium- to long-term enhancement of corporate value and management from the perspective of shareholders
- Incentivize eligible members of the Board to enhance business performance by linking the Company's performance with individual performance

### Composition of Remuneration

The compensation system for members of the Board (excluding non-executive members of the Board and outside Board members) at DENSO consists of basic compensation as fixed compensation, as well as bonuses and share-based compensation as performance-linked compensation. An overview of each compensation system and the ratio of compensation by position for basic compensation amounts are as detailed in the table below. However, note that these ratios may vary depending on the achievement of corporate earnings indicators for the fiscal year.

Type of Compensation		Overview	Ratio		
			President	Vice President	Members of the Board and Senior Executive Officers
Fixed compensation	Basic compensation (fixed amount)	• Paid as monthly fixed compensation based on position	40%	45%	50%
Performance-linked compensation	Bonus (short-term incentive)	• Paid at a certain time each fiscal year after the conclusion of the General Meeting of Shareholders	30%	30%	30%
	Share-based compensation (medium- to long-term incentives)	• Payment amount calculated based on corporate earnings indicators (consolidated operating profit, ROIC, sustainability score) and individual performance evaluation results	30%	25%	20%

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Compensation for non-executive members of the Board and outside Board members consists of only basic compensation (fixed amount) from the standpoint of ensuring impartiality. Compensation for Audit & Supervisory Board members also comprises only basic compensation (fixed amount), in light of their roles and responsibilities as auditors in charge of compliance audits.

#### Compensation Levels

The level of compensation for members of the Board and Audit & Supervisory Board members is set at the median level at comparable companies while also referencing levels at major manufacturers of similar scale in similar sectors and business models as DENSO, based on board member compensation survey data compiled by external research institutions each year.

#### Method for Calculating Performance-Linked Compensation

Consolidated operating profit, ROIC, and sustainability score are the metrics used to calculate performance-linked compensation with the aim of establishing a link to corporate earnings and incentivizing members of the Board to increase earnings and sustain growth. The score weighting and evaluation method for each metric is shown below. Targets for each fiscal year, the basis of these evaluations, are set each year based on medium- to long-term objectives.

Performance-linked compensation amounts are calculated within a range of  $\pm 20\%$  of total annual compensation based on assessments of individual performance as related to earnings, achievements, and medium- to long-term initiatives.

Indicator	Score Weighting	Evaluation Method
Consolidated operating profit	70%	Evaluation based on degree of achievement of fiscal year targets
ROIC	20%	Evaluation based on degree of achievement of fiscal year targets
Sustainability score	10%	Evaluation based on overall achievement of fiscal year targets for addressing the following priority issues in the Company's sustainability management Priority Issues (1) Workplace safety, (2) quality, (3) total CO <sub>2</sub> emissions, (4) information security, (5) employee engagement, (6) expansion of "green" and "peace of mind" products, and (7) diversity and inclusion (promotion of foreign and female employees)

#### Matters Regarding Share-Based Compensation

DENSO has introduced a share-based compensation system with restrictions on transfer with the objective of enhancing

incentives to increase corporate value over the medium to long term and share more value with shareholders.

Eligible persons	Members of the Board of the Company (excluding non-executive members of the Board and outside Board members)
Total amount of share-based compensation	Up to ¥200 million per year
Amount of share-based compensation for each member of the Board	Determined each year considering factors such as the Company's business results and the responsibilities and achievements of the member of the Board
Class of shares to be allocated and method of allotment	Issue or disposal of shares of common stock (those with restrictions on transfer under the Allotment Agreement)
Total number of shares to be allocated	Up to a total of 100,000 shares per year to eligible members of the Board
Amount to be paid	Determined by the Board of Directors based on the closing price of shares of common stock of the Company on the Tokyo Stock Exchange on the business day immediately preceding the date of each resolution of the Board of Directors, within a range that is not particularly advantageous to eligible members of the Board
Transfer restriction period	During the period predetermined by the Board of Directors, ranging from three years to 30 years from the allotment date. Under the Allotment Agreement, eligible members of the Board must not dispose of the shares of the Company's common stock by transferring or creating a security right on the shares allotted or by other measures.
Condition 1 for removal of transfer restrictions	Restrictions will be removed regarding the expiration of the transfer restriction period. However, the restrictions will also be removed in the event that the eligible member of the Board leaves the position due to the expiration of their term of office, their death, or other justifiable reason.
Condition 2 for removal of transfer restrictions	If a proposal for restructuring the Company—such as a merger agreement whereby the Company will be an absorbed company to the merger, or a share exchange agreement or share transfer plan whereby the Company will become a wholly owned subsidiary of another party—is approved by the Company's General Meeting of Shareholders (or by the Company's Board of Directors if such organizational restructuring does not require approval of the General Meeting of Shareholders) during the transfer restriction period, the Company shall remove, based on a resolution of the Board of Directors, the transfer restriction of the allotted shares at a date prior to the effective date of the organizational restructuring. The number of such allotted shares subject to removal of the transfer restriction shall be reasonably determined in light of the period from the start date of the transfer restriction period and the date of approval for such organizational restructuring.
Acquisition by the Company without consideration	The Company will be able to acquire all allotted shares without consideration in the event of violations of laws and regulations, or other reasons specified by the Board of Directors, during the transfer restriction period.

### Method for Determining Compensation

DENSO established the Executive Nomination and Remuneration Council, chaired by an independent outside Board member and whereby independent outside Board members form a majority, in order to ensure impartiality, fairness, and transparency in Board member compensation.

The Board of Directors has passed a resolution on the total amount of compensation for the current fiscal year and a resolution to entrust decisions on individual compensation to the Executive Nomination and Remuneration Council. The Executive Nomination and Remuneration Council examines the officer compensation system and decides individual compensation amounts based on corporate earnings, the position of each member of the Board, and their performance.

The Executive Nomination and Remuneration Council, on which independent outside Board members form a majority, deliberates and determines individual compensation amounts from multiple angles, including conformance with the Company's policy for determining remuneration. The Board of Directors has determined that the council's decisions are in accordance with the policy for determining remuneration.

Compensation for Audit & Supervisory Board members is determined through a consensus of members and set within the total amount approved by resolution at the General Meeting of Shareholders.

### Compensation-Related Matters Decided at General Meeting of Shareholders

Types of compensation		Maximum amounts of compensation	General Meeting of Shareholders' resolution	Number of Board members at time of resolution
Members of the Board	Basic compensation and bonus	No more than ¥1 billion annually (including no more than ¥150 million for outside Board members)	June 19, 2020 97th Ordinary General Meeting of Shareholders	Eight members of the Board (of whom three were outside Board members)
	Share-based compensation	No more than ¥200 million annually	June 19, 2020 97th Ordinary General Meeting of Shareholders	Eight members of the Board (of whom three were outside Board members)
Audit & Supervisory Board members	Basic compensation	No more than ¥15 million per month	June 19, 2014 91st Ordinary General Meeting of Shareholders	Five members of the Board (of whom three were outside Board members)

### Total Amount of Compensation by Board Member Classification, Total Amount of Each Type of Compensation, and Number of Eligible Board Members

Board member classification	Total amount of compensation (¥ million)	Total amount of each type of compensation (¥ million)			Number of eligible Board members
		Fixed compensation	Performance-linked compensation		
		Basic compensation	Bonus	Share-based compensation	
Members of the Board (including outside Board members)	442 (48)	300 (48)	105 (—)	37 (5,000 shares) (—)	11 (3)
Audit & Supervisory Board members (including outside Audit & Supervisory Board members)	114 (25)	114 (25)	— (—)	— (—)	5 (2)
Total	556	414	105	37 (5,000 shares)	16

- Notes: 1. The figures above include four Board members (Members of the Board Yasushi Yamanaka, Hiroyuki Wakabayashi, and Sadahiro Usui, and Audit & Supervisory Board member Atsuhiko Shimmura) who retired as of the conclusion of the 98th Ordinary General Meeting of Shareholders held on June 22, 2021.
2. Performance-linked compensation is the amount based on the resolution adopted at the Board of Directors' meeting held on May 23, 2022. Consolidated operating profit was ¥341.2 billion in fiscal 2022, the year used to calculate performance-linked compensation.
3. For share-based compensation, the number of shares granted is calculated by dividing the amount of compensation approved by resolution of the Board of Directors' meeting held on May 23, 2022, by the closing price on the day before the adoption of this resolution.

## Strategic Shareholdings

### Basic Stance

To maintain and improve corporate value over the long term in a fast-changing global market, it is essential that we collaborate with outside parties, including promoting joint technological development with various other companies and maintaining and strengthening relationships with business partners. To that end, we hold the minimum number of strategic shareholdings necessary for our business strategies. DENSO is keen to reduce low-earning assets and adopts the basic policy of not owning strategic shareholdings unless it is deemed logical to own such shareholdings.

### Details of Examination to Determine the Appropriateness of Strategic Shareholdings

Every year, the Board of Directors comprehensively determines the appropriateness of cross-shareholdings by examining the management significance of holding each individual stock, including in terms of promoting joint development and strengthening business collaboration, as well as whether the return on holding said stock (dividend payments, increased

share prices, relevant business profit, etc.) is greater than the Company's weighted average cost of capital. The Company takes steps to reduce the number of cross-shareholdings in the event that the continued holding of such shares is no longer deemed rational through the above process.

### Standard for Exercising Voting Rights

DENSO believes that its investee companies should engage in management that emphasizes improving shareholder interest over the medium to long term, rather than pursuing shareholder returns only in the short term. Giving first and foremost priority to our investee companies that contribute to our profits, we exercise voting rights in an effort to help our investee companies realize sustainable growth and improve their corporate value over the medium to long term.

We comprehensively consider the merits of each item under examination regarding the exercising of votes based on our established internal guidelines. When necessary, we hold dialogues with our investee companies regarding the content of our proposals.

## Shares Held for Purposes Other Than Pure Investment (from securities filings)

	Number of stocks Balance sheet amounts		Number of stocks	
			Stocks for which the number of shares increased during the fiscal year under review	Stocks for which the number of shares decreased during the fiscal year under review
Unlisted shares	80 stocks ¥37,404 million (+¥444 million)		2 stocks ¥1,090 million	5 stocks ¥24 million
Shares other than unlisted shares	23 stocks ¥661,950 million (-¥59,702 million)		1 stock ¥1,063 million	9 stocks ¥54,635 million

Note: The increase in stocks for which the number of shares rose is due to the acquisition of shares necessary for business strategies toward realizing the Group's sustainable growth.

## Establishing and Strengthening Internal Controls

With the aim of fair and efficient business operations, the Company formulated the DENSO Basic Policies for Internal Control. We have stipulated basic policies for control, various rules, and systems in areas that form the basis of our management such as the Code of Conduct, management systems, risk management, and compliance. We make revisions and changes when necessary after undertaking regularly scheduled annual verifications of the status of implementation.



Please see the following URL for DENSO Basic Policies for Internal Control.

<https://www.denso.com/global/en/-/media/global/about-us/sustainability/governance/management/management-doc-internal-control-policy-2021-en.pdf>



### Internal Reporting System

In accordance with the circumstances in each region of operation, the DENSO Group has set up internal reporting systems at its regional headquarters and each business site. These systems allow employees to report their concerns and receive consultation on matters related to legal and regulatory violations via email, telephone, written correspondence, or face-to-face interaction.

For example, at DENSO CORPORATION, we have established a Business Ethics Hotline in accordance with Japan's Whistleblower Protection Act that allows anonymous reporting; is independent from the normal chain of command; and is administered by outside attorneys and the Business Ethics Hotline Secretariat. This hotline can be used by all persons working at DENSO CORPORATION and domestic Group companies, including employees, temporary employees, and employees contracted from other companies, in addition to suppliers. In fiscal 2022, the hotline received 103 consultations and reports regarding matters such as employment, labor, work environment, information management, business transactions, and accounting, all of which were addressed appropriately after staff investigated the situation and confirmed the facts.

Number of reports and consultations received (including Group companies)	Fiscal 2020	Fiscal 2021	Fiscal 2022
	130 (27)	74 (24)	103 (44)



## Dialogue with the Outside Board Members



## Transparent and Diverse Governance and Sustained Improvement in Corporate Value

Fiscal 2022 was a major turning point for corporate governance reforms at DENSO. We had an open discussion with outside Board members Shigeki Kushida and Yuko Mitsuya about their take on the Company's initiatives and future issues.

### Shigeki Kushida

Outside Board Member

Mr. Kushida has been serving as an outside Board member at the Company since 2019. He also serves as president and representative executive officer at Japan Securities Finance Co., Ltd., and has experience working at the Bank of Japan.

### Yuko Mitsuya

Outside Board Member

Ms. Mitsuya has been serving as an outside Board member at the Company since 2019. She also serves as representative director of SORA Corporation and has a long history in the sports world.

CONTENTS	PROLOGUE	CEO MESSAGE	DENSO's Value Creation Story	Growth Strategy	Foundation for Creating New Value	Overview by Product	Corporate Governance	Corporate Data
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## Significance of Disclosing the Skill Matrix

**Kushida** DENSO is a company that has worked diligently to reform corporate governance. As a company with an Audit & Supervisory Board, DENSO strictly complies with the requirements of the Corporate Governance Code, separating business supervision and execution and emphasizing monitoring functions. For example, the Executive Nomination and Remuneration Council was initially an advisory body when it was established in 2016, but it was upgraded to a decision-making body in 2021, thereby giving more power to the opinions of independent outside Board members.

**Mitsuya** When I look at DENSO, I am impressed with its constant use of the PDCA cycle. Measures that did not work as anticipated after a year are changed without hesitation. At meetings of the Board of Directors, our opinions have more weight. This is what makes DENSO truly great, and indicates that the Company already had the groundwork laid for governance before adopting the Corporate Governance Code.

With that said, I believe the Company still has some work to do in terms of separating supervision from business execution, in light of global standards.

**Kushida** The Company has recently disclosed the skill matrix of its members of the Board, and this is significant for two reasons.

First, the skill matrix expresses what the Company desires for skill sets on the entire Board of Directors. In the manufacturing industry, knowledge of manufacturing is usually an important trait for managers to have, so the Board of Directors tends to have members with experience on the business execution side. On the other hand, outside Board members are expected to have knowledge about corporate management, governance, finance, accounting, and human resources.

Second, disclosing the skill matrix is a way to fill in any gaps between the way that management and investors think about the composition of the Board of Directors. I believe this is a dynamic area of thought that is influenced by changes around the world.

**Mitsuya** Ensuring diversity on the Board of Directors is also an important topic, but it is difficult to gain insight on diversity with only a skill matrix. To be appointed as an outside Board member, a candidate needs to have sufficient experience and be of a certain age, and such appointments tend to go to candidates with equal qualifications but hail from a different industry. In recent years, candidates are expected to have a market-oriented perspective of the external business environment, and due to the emergence of electric vehicles, the conventional wisdom for manufacturing cars has been undergoing a change. In order to rapidly respond to such changes, the Board of Directors needs a more fundamental type of diversity that goes beyond the advancement of women and foreign nationals, in my opinion.



## Two Aims of Revising Board Member Compensation

**Kushida** One major aim of the revisions to the officer compensation system is to enhance incentives for inside members of the Board and focus their attention on medium- to long-term corporate value.

In order to enhance incentives, the ratio of basic compensation in overall remuneration has been reduced to 40%–50%, while the ratio of performance-linked compensation is being increased. The ratio of compensation based on individual performance evaluations is also being expanded to  $\pm 20\%$ .

For assessing corporate performance, the Company has introduced ROIC and sustainability scores as new metrics to complement consolidated operating profit. The addition of ROIC as a metric underscores management's emphasis on capital efficiency. There is also an ESG element to the new system. This compensation system is designed to sustain growth in corporate value while being aware of the various stakeholders involved.

**Mitsuya** When I first saw the proposed changes, I thought they were sweeping changes. The strict evaluation system means that compensation can change dramatically based on results, and the addition of a non-financial metric is a radical move. The Company is asking for more than usual from its Board members. I believe it is a drastic move in the context of the business environment in Japan.

**Kushida** For this compensation system to work, it is important to get everyone on board. It will be necessary for management to share and visualize achievements and targets, and diligently review the results.

## Mid-term Policy for 2025 Following Reborn21

**Kushida** Initiatives under Reborn21 were a precious opportunity to reassess current conditions in addition to quality issues. For example, DENSO must make an effort to improve management efficiency when making major



investments in the future. It is also necessary to update workstyles and the nature of organizations in order to draw out the capabilities of the Company's diverse human resources. I believe DENSO did a great job pulling everyone together across the Company to reinforce these foundations.

**Mitsuya** The larger a company becomes, the more the information tends to flow in one direction, from top to bottom. Most large Japanese companies are transforming their business structures in some way. Even though established core businesses generate most cash flows, the allocation of management resources tends to concentrate in future growth fields that have yet to show a return. Naturally, the people on the front lines grow dissatisfied with this situation. DENSO is not immune to this problem, which is peculiar to transitional periods of companies.

In this sense, Reborn21 was ultimately implemented at the best possible timing. While taking thorough measures to prevent the spread of COVID-19, the Company created many opportunities for discussion despite the pandemic, and employees sounded out their opinions. Although quality problems should never happen again, I think the whole situation may have ended up being beneficial for the Company.

**Kushida** In light of these outcomes, DENSO created the Mid-term Policy for 2025. Its broad array of initiatives are generally aimed at reforming the business portfolio to become carbon neutral. All that remains to be done is to translate these aims into specific fiscal year targets and quickly carry out measures to achieve them.

**Mitsuya** This new direction must also take into account the views of final consumers. Even if the Company advances DX projects, for example, consumer data forms the basis for these projects. Utilizing data and taking a B2C perspective, business might flow in a different direction than before. Human resources are what drive business

forward. I look forward to seeing more results from DENSO's human resource strategy for hiring and training personnel.

**Kushida** Looking ahead, growth at DENSO will be driven by people who are aware of problems and have an optimistic outlook for the future. It is important to train people who can take advantage of this transformative period as a once-in-a-century opportunity, and to create organizations that allow these people to freely take on new challenges.

**Mitsuya** DENSO is a supporter of various sports, and there is meaning here as well. Through sports, athletes around the world brighten the spirits of people by always taking on challenges. I believe this will have important implications for DENSO's human resource development.

## Toward a New Stage of Corporate Governance

**Kushida** New technologies cannot become a reality through technological potential alone. For example, there are many factors in play that affect the viability of self-driving cars, such as roads (infrastructure), transportation rules (laws), and people's awareness of traffic safety. Making self-driving cars a reality means that various changes must be made in society. Automakers and auto parts makers need to pay attention to external trends, and proactively increase their partners as a prerequisite to improving their corporate value.

**Mitsuya** Effective knowledge and great ideas often come from the outside. Instead of relying on other people to peer outside for knowledge and ideas, it is important for each and every employee to build their own networks of relationships. Such efforts help people themselves grow and can lead to the maximization of corporate value.

I think that DENSO can occasionally be a little too serious about this point. It is not necessary for DENSO to go out of its way to be considerate to outside officers. Why not take advantage of the extensive knowledge and networks of outside officers? I think DENSO should not hesitate to use all of our knowledge.

**Kushida** DENSO's corporate governance has entered a new stage where it can actively explore the shape of management and corporate governance that will lead to future growth. Here, it is important to have more discourse internally and externally without reservation. I think that everyone should take advantage of opportunities to communicate more and be more proactive in DENSO's head office.

## Message from the New Outside Board Member

I will draw on my diverse experience that spans across various regions, industries, and government institutions to contribute to DENSO from new perspectives.

Joseph P. Schmelzeis, Jr.

Outside Board Member

After serving in such positions as corporate director at SEGA SAMMY HOLDINGS INC. and senior advisor to the ambassador at the U.S. Embassy in Tokyo, Mr. Schmelzeis currently works as executive manager at Cedarfield Godo Kaisha. He was appointed as outside Board member of DENSO in 2022.



### Supporting DENSO's Innovative and Effective Corporate Governance

I was appointed as outside Board member of DENSO at the Ordinary General Meeting of Shareholders held in June 2022. With its various innovations and superior technologies, DENSO has consistently stood at the leading edge of the automotive industry. At the same time, DENSO has planted roots in various regions across the globe, building strong trust-based relationships with a broad range of shareholders. By doing so, I believe DENSO has carved out a unique position that will allow it to turn the dramatic changes in the operating environment of the global automotive industry into new business opportunities.

While DENSO is a Japanese company with a long history in Japan, its corporate governance is extremely innovative. At meetings of the Board of Directors, open and constructive dialogue is held among all of the members of the Board, including the three outside Board members. In addition, DENSO makes various considerations on behalf of the outside Board members, including holding meetings for only the outside Board members that help us enhance our objectivity and enable us to exchange opinions in a more straightforward manner. DENSO understands the importance of external input in enhancing the objectivity of management decision-making, and I have seen how the Company truly tries to learn from the advice that we provide. I therefore commend DENSO for proactively adopting a corporate governance structure that distinguishes itself from companies where corporate governance is treated merely as a formality.

### Understanding What Is Needed in the Evolution of the Automotive Industry

My first experience with Japan was 46 years ago, when I came to the country with my family from the United States.

I was 13 at that time. After attending high school in Japan, I returned to the U.S. to attend Yale University. However, my first experience in the working world was also in Japan, when I took part in an internship. Since then, I have spent a total of 36 years living and working in Japan, while traveling back and forth between Japan and overseas.

My career has been in industries and domains that are of a very different nature than the traditional automotive industry. Starting with management consulting, I have worked in a wide range of positions throughout my career, from establishing IT venture companies to serving in the service industry and financial industry and even in government institutions. Through this experience, I have engaged in countless business discussions and negotiations. Both as a businessperson and as a senior advisor to the ambassador at the U.S. Embassy in Tokyo, I have served as a bridge between Japan and the United States as well as between Japan and China. Drawing on my unique work experience and personal network, I hope to introduce new perspectives into the management decision-making of DENSO.

The automotive industry is currently undergoing a paradigm shift, as evidenced by the CASE revolution. With companies from IT and other industries making an entry into the automotive industry one after the other, there is a need for new ideas that are not constrained by traditional approaches. To that end, promoting diversity, which can bring about a genuine transformation, plays a crucial role in responding to these kinds of changes in the external environment and evolving in a way that best suits the new era in which we find ourselves. Although Japan's homogeneity has provided the country with a prominent strength, Japanese society is likely to become more open in terms of such aspects as gender, nationality, and work history going forward. I therefore intend to make every effort to support DENSO as it takes on a leading role with the transition into a new era. By doing so, I will endeavor to meet the expectations of the Company's shareholders and other investors.



## Members of the Board and Audit & Supervisory Board Members

(As of June 21, 2022)

### Members of the Board



President & CEO, Representative Member of the Board

#### Koji Arima

(Date of birth: February 23, 1958)  
1981 Joined DENSO CORPORATION  
2008 Executive Director, DENSO CORPORATION  
2014 Senior Executive Director, DENSO CORPORATION  
2015 President & CEO, Representative Member of the Board DENSO CORPORATION (current position)



Executive Vice President, Representative Member of the Board

#### Yukihiro Shinohara

(Date of birth: March 9, 1960)  
1982 Joined DENSO CORPORATION  
2011 Executive Director, DENSO CORPORATION  
2018 Senior Executive Director, DENSO CORPORATION  
2019 Senior Executive Officer, DENSO CORPORATION  
2021 Member of the Board and Senior Executive Officer, DENSO CORPORATION (current position)  
2022 Executive Vice President, Representative Member of the Board (current position)



Member of the Board

#### Kenichiro Ito

(Date of birth: October 1, 1962)  
1985 Joined DENSO CORPORATION  
2012 Executive Director, DENSO CORPORATION  
2019 Senior Executive Officer, DENSO CORPORATION  
2021 Member of the Board and Senior Executive Officer (current position)



Member of the Board

#### Yasushi Matsui

(Date of birth: July 3, 1964)  
1987 Joined DENSO CORPORATION  
2014 Executive Director, DENSO CORPORATION  
2019 Senior Executive Officer, DENSO CORPORATION  
2021 Member of the Board and Senior Executive Officer, DENSO CORPORATION (current position)



Member of the Board

#### Akio Toyoda

(Date of birth: May 3, 1956)  
1984 Joined Toyota Motor Corporation  
2000 Member of the Board of Directors, Toyota Motor Corporation  
2002 Managing Director, Toyota Motor Corporation  
2003 Senior Managing Director, Toyota Motor Corporation  
2005 Executive Vice President, Toyota Motor Corporation  
2005 Outside Member of the Audit & Supervisory Board, Koyo Seiko Co., Ltd. (currently JTEKT CORPORATION)

2006 Outside Audit & Supervisory Board Member, TOYOTA BOSHOKU CORPORATION  
2009 President, Toyota Motor Corporation (current position)  
2018 Chairman, Japan Automobile Manufacturers Association, Inc. (current position)  
2019 Member of the Board, DENSO CORPORATION (current position)



Outside Board Member

**Independent Officer**

#### Shigeki Kushida

(Date of birth: June 8, 1958)  
1981 Joined Bank of Japan  
2004 Branch Manager, Kochi Branch, Bank of Japan  
2009 Director-General, Personnel and Corporate Affairs Department, Bank of Japan  
2010 Director-General, Planning Department, Bank of Japan  
2011 Branch Manager, Nagoya Branch, Bank of Japan  
2013 Executive Director, Bank of Japan  
2013 Entrusted Branch Manager, Nagoya Branch and Osaka Branch, Bank of Japan

2017 Senior Advisor, American Family Life Assurance Company (currently Aflac Life Insurance Japan Ltd.)  
2019 Director, Representative Executive Officer & President, Japan Securities Finance Co., Ltd. (current position)  
2019 Member of the Board, DENSO CORPORATION (current position)



Outside Board Member

**Independent Officer**

#### Yuko Mitsuya

(Date of birth: July 29, 1958)  
1981 Joined Hitachi, Ltd.  
2007 Representative Director, PSY-fa Co., Ltd.  
2014 Outside Audit & Supervisory Board Member, ASICS Corporation  
2015 Outside Director, Fujita Kanko Inc.  
2015 Outside Director, Paloma Co., Ltd.  
2016 President, Japan Basketball Association (current position)  
2018 Representative Director, SORA Corporation (current position)

2018 Outside Director, The Fukui Bank, Ltd. (current position)  
2019 Outside Director and Audit and Supervisory Committee Member, JXTG Holdings, Inc. (currently ENEOS Holdings, Inc.) (current position)  
2019 Member of the Board, DENSO CORPORATION (current position)  
2021 Vice President, Japanese Olympic Committee (current position)



Outside Board Member

**Independent Officer**

#### Joseph P. Schmelzeis, Jr.

(Date of birth: November 2, 1962)  
1984 Joined Bain & Company  
1988 Vice President, American Express International  
1998 Chief Operating Officer, Fontworks International  
1999 Interim CEO, Crimson Ventures  
2001 Representative Director, JPS International, Inc. (current position)  
2011 Corporate Director, Division Manager, SEGA CORPORATION  
2015 Senior Advisor, SEGA SAMMY HOLDINGS INC.

2018 Senior Advisor to the Ambassador, U.S. Embassy in Tokyo  
2021 Executive Manager, Cedarfield Godo Kaisha (current position)  
2022 Member of the Board, DENSO CORPORATION (current position)

### Audit & Supervisory Board Members



#### Standing Audit & Supervisory Board Member Shingo Kuwamura

(Date of birth: August 16, 1959)  
 1982 Joined DENSO CORPORATION  
 2009 Executive Director, DENSO CORPORATION  
 2017 Senior Executive Director, DENSO CORPORATION  
 2019 Senior Executive Officer, DENSO CORPORATION  
 2021 Standing Audit & Supervisory Board Member, DENSO CORPORATION (current position)



#### Standing Audit & Supervisory Board Member Motomi Niwa

(Date of birth: November 3, 1962)  
 1985 Joined DENSO CORPORATION  
 2007 Head of Function Products Planning Division (currently Powertrain Systems Business Planning Div.), DENSO CORPORATION  
 2013 Director, Human Resources Division, DENSO CORPORATION  
 2014 Vice President, DENSO Manufacturing Athens Tennessee, Inc.  
 2018 Standing Audit & Supervisory Board Member, DENSO CORPORATION (current position)



#### Outside Audit & Supervisory Board Member **Independent Officer** Yasuko Goto

(Date of birth: February 19, 1958)  
 1980 Joined the Ministry of Transport  
 2004 Head, New York Office, Japan National Tourism Organization  
 2005 Vice Governor, Yamagata Prefecture  
 2008 Director, Regional Transport Bureau of Hokuriku and Shinetsu Regions, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)  
 2013 President, Policy Research Institute for Land, Infrastructure, Transport and Tourism, MLIT

2015 Managing Director, Deputy General Manager of Railway Operations Headquarters and General Manager of Tourism Business Headquarters, Kyushu Railway Company  
 2017 Managing Director in charge of Finance Department, Kyushu Railway Company  
 2018 Director (Audit & Supervisory Committee Member) Kyushu Railway Company  
 2019 External Audit & Supervisory Committee Member, Shiseido Company, Limited (current position)  
 2019 Outside Audit & Supervisory Board Member, DENSO CORPORATION (current position)



#### Outside Audit & Supervisory Board Member **Independent Officer** Haruo Kitamura

(Date of birth: August 21, 1958)  
 1983 Joined Arthur Andersen Konin Kaikeishi Kyodo Jimusho (currently KPMG AZSA LLC)  
 1987 Registered as a Certified Public Accountant  
 2002 Chief, Kitamura Certified Public Accountant Office (current position)  
 2003 Representative Director of Charles's Wain Consulting Co., Ltd. (currently CerWin Consulting K.K.) (current position)  
 2004 Outside Auditor, ROHM Co., Ltd.  
 2005 Outside Director, Sumisho Grainger Co., Ltd. (currently MonotaRO Co., Ltd.)  
 2006 Supervisory Director, MID REIT, Inc. (currently Japan Metropolitan Fund Investment Corporation)

2009 Outside Corporate Auditor, Yamaha Corporation  
 2010 Outside Director, Yamaha Corporation  
 2015 Part-time Corporate Auditor, ASMO Co., Ltd. (currently DENSO CORPORATION)  
 2015 Outside Corporate Auditor, LEGAL CORPORATION (currently LeTech CORPORATION) (current position)  
 2016 Outside Corporate Auditor, Toyo Aluminium K.K. (current position)  
 2019 Outside Audit & Supervisory Board Member, DENSO CORPORATION (current position)  
 2019 Outside Audit & Supervisory Board Member, Misuzu Co., Ltd. (current position)

### Experience and Specializations (Skill Matrix) of Members of the Board and Audit & Supervisory Board Members

DENSO has defined 11 areas of experience and specialization necessary to realize its Long-term Policy for 2030 and sustain stable corporate management. The areas of specialization that the Company expects each member to demonstrate are as shown in the table below.\*

Note: This does not represent all the areas of experience and specialization of each person.

Name	Corporate management	Software / Digital	Marketing	Environment / Energy	Governance	Global	Finance / Accounting	Human resources	Technological development	Production / Quality	Sales / Procurement
Koji Arima											
Yukihiro Shinohara											
Kenichiro Ito											
Yasushi Matsui											
Akio Toyoda											
Shigeki Kushida											
Yuko Mitsuya											
Joseph P. Schmelzeis, Jr.											
Shingo Kuwamura											
Motomi Niwa											
Yasuko Goto											
Haruo Kitamura											

\* As of June 2022

# Risk Management

## Basic Stance

To minimize the impact of constantly diversifying risks, DENSO is working to strengthen its risk management structure as a part of internal controls. Specifically, we have divided matters that have the potential to damage our businesses into “risks,” which refer to circumstances where such matters have yet to manifest, and “crises,” which refer to states of emergency where such matters have manifested. Based on these classifications, we are focusing our efforts on implementing preventive measures, which stop risks before they occur, and swift and accurate initial-response and recovery measures, which minimize damage in the event a crisis occurs.

Recently, DENSO has been facing a variety of risks the likes of which it had previously never experienced. Since 2019, we have been dealing with the fallout from the quality-related issue, which has impacted the trust our customers place in us and has shaken our management foundation. Additionally, risks stemming from the external environment, such as the COVID-19 pandemic, tight supply-demand for production materials, and cyberattacks, have had a major impact on our business activities.

In light of these circumstances, we have once again recognized risk management as an important management issue. Going forward, we will pursue dramatic reforms to our risk management structure in order to strengthen our response capabilities.

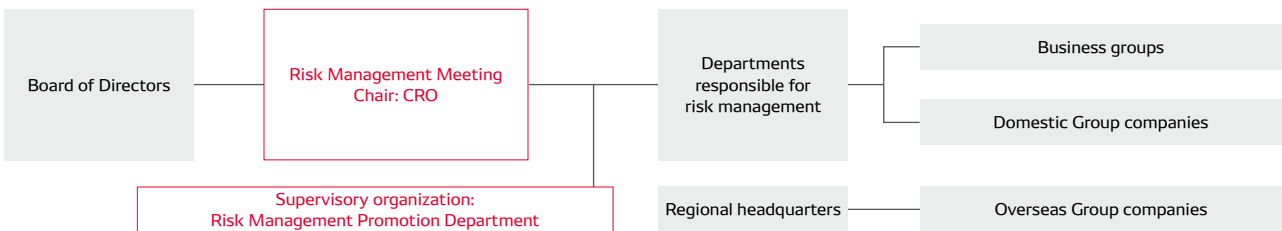
## Promotion Structure

DENSO has established the Risk Management Meeting, chaired by the chief risk officer (CRO), who is responsible for Groupwide risk management. The Risk Management Meeting is a Groupwide organization that confirms improvements to the Company’s risk management structure and framework and discusses and determines the direction of important risk management activities based on the conditions and trends both inside and outside the Company. Through this organization, we are

taking steps to strengthen measures to prevent damage to our businesses during normal times and measures to minimize damage during times of emergency.

In addition, we have created the Crisis Communication Manual in order to respond promptly and accurately in the event of a crisis. Depending on the severity and level of urgency of the situation, we assemble special countermeasure organizations to enact an agile response geared toward minimizing damage.

Risk Management Structure (under normal circumstances)



## Ascertaining Risks and Clarifying Response

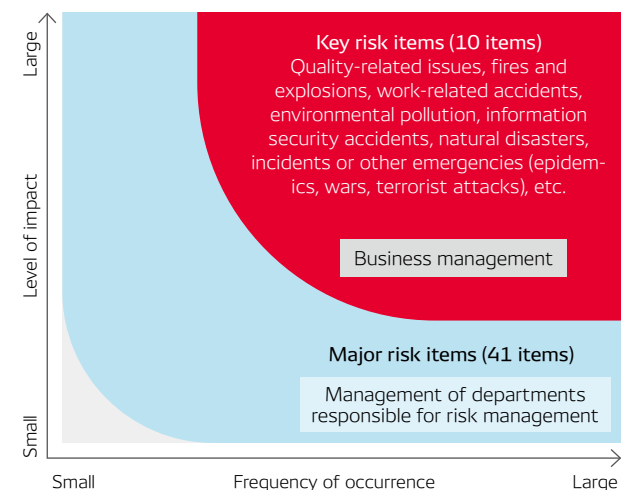
DENSO makes efforts to constantly ascertain the risks it faces and manage these risks from the perspectives of damage mitigation and business continuity.

The Company has identified major risk items related to life, credit, property, and business activities based on frequency of occurrence, level of impact, and the surrounding business environment. The Company designates responsible departments for each risk item and clarifies various factors pertaining to these items, including level of impact, reason for occurrence, preventive measures, initial response, and recovery efforts. The Company also strives to enhance its preventive measures, initial response, and recovery efforts. In particular, DENSO is identifying risks toward which it invests resources to promote countermeasures as “key risk items.” The Company has also established plans and targets toward further enhancing its crisis management, and the progress made toward these plans and targets is reported to the Risk Management Meeting. At the same time, DENSO has been incorporating risk management into Companywide targets, and the status of risk management activities is now also confirmed by the Board of Directors.

Additionally, for fiscal 2023 the Company has determined 41 major risk items and 10 key risk items. DENSO revises these major risk and key risk items appropriately, giving consideration to the issues currently facing society as well as the frequency of risks occurring at DENSO and the level of impact they have on the Company.

Assuming risks could well materialize, DENSO is strengthening its ability to address risks to minimize their impact on management by taking thorough measures on the systems, personnel, and governance fronts to address possible risks.

Risk Map



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## Examples of Response to Key Risks

### Risk Prevention and Responses to Risk Events

Corporations have been facing an increasing number of serious risks recently. For example, in addition to the progression of global warming, there are concerns over the frequent occurrence and greater severity of natural disasters caused by climate change. Furthermore, we are currently seeing a surge in unprecedented risks, such as shortages of semiconductors and other important components, as well as logistics disruptions, as the pandemic has not fully subsided, in addition to rising geopolitical risks and incidents.

Under these circumstances, while placing the most importance on protecting people's lives, it is imperative that we are able to swiftly recover our business operations in the event an emergency occurs and take steps to minimize any damage it may cause to our businesses. From the standpoint of business continuity management, we are taking action in such ways as creating emergency situation manuals and promoting countermeasures for minimizing the impact from disasters.

### Strengthening Our Response to Quality Risks: Establishing an Unwavering, Robust Business Foundation Based on the "Customer First" Principle

Having encountered one of our largest-ever quality problems in 2019, we unified together in Companywide efforts to reform our knowledge, awareness, and corporate culture under the slogan "recommit to quality." We updated our systems across the Company, led by quality experts in each core technology field, nurtured a corporate culture that puts quality first, and improved our track record on quality. We also improved our corporate structure, slimming it down into a leaner form. With the aim of establishing an unwavering, robust business foundation as stated in our Mid-term Policy for 2025, we are moving forward with bold reforms with a "Customer First" perspective.

#### Examples of Initiatives

- We are accelerating the development of fundamental quality-related technologies in fields such as advanced safety, while aiming to become carbon neutral and realize our principles (i.e., "green" and "peace of mind") in our Companywide systems for quality management.
- We are using tools to improve quality in upstream development while identifying areas of concern for quality by using specification data for newly developed products and AI, as well as our accumulated technical knowledge.
- We are improving our corporate culture by making small team activities more practical for ongoing improvements at production sites, and by increasing the involvement of managers and section chiefs in on-site activities.

### Response to Tight Supply-Demand Conditions for Semiconductors

With no sign of improvement in semiconductor supply shortages, current conditions are likely to persist for a while. To minimize supply risk, DENSO is working closely with suppliers while managing risks at hand. For example, high-risk inventories are not stored in a single location, and instead they are distributed across production sites and demand areas. In addition to in-house production, the Company is placing orders at multiple suppliers, putting in place a structure that can switch suppliers in case of an emergency. By applying DX

to high-risk inventories, the Company is establishing a first-mover advantage by unifying information about internal and external inventories (visualization), and is thoroughly reinforcing its relationships with suppliers as bedrock partners.

At this juncture, DENSO has been able to deliver products to customers without delay, and is advancing efforts to solidify relationships with suppliers throughout the supply chain in order to secure sufficient supplies.

### Addressing Risk of Increasingly Sophisticated Cyberattacks and Preparing for Digitalization

At DENSO, Group companies in North America and Europe confirmed that they were subject to cyberattacks that gained illicit access to their IT systems in fiscal 2022. Determined to prevent such incidents from ever occurring again, we are sparing no effort to prevent a recurrence by 1) re-training and thoroughly drilling each and every employee about basic operations in order to change their awareness of cybersecurity; 2) strengthening global systems for detecting threats and monitoring systems by deploying the latest technologies, including AI; and 3) double-checking the security of our systems with the help of external entities, in addition to a comprehensive inspection of key servers and equipment.

Along with advances in self-driving cars and IoT, addressing cyber risks in cars and production facilities has become an extremely important issue. To that extent, we are developing technologies that protect in-vehicle products, such as

advanced driver support and automated driving systems, from cyberattacks to ensure that people can drive cars safely and with peace of mind. We are also establishing a unique framework for ensuring that such technologies are steadily installed in vehicles. Furthermore, we are reinforcing security measures toward plant networks, production lines, and other facilities.

Additionally, we are advancing digitalization within the Company, and this will increase the quality and speed of work by allowing various information to be delivered to and used by employees the instant they need it. To ensure we do not infringe upon the rights and interests of the information provider, we are working to forecast risks from a broad range of perspectives, including contract conditions and adherence to laws and regulations, formulate relevant rules, and establish a structure to appropriately manage and operate these assets.



# Compliance

## Basic Stance

We believe that key actions to earn the trust and understanding of society pertain to the DENSO Group's observance of all applicable national and regional laws and all employees' fair and faithful conduct that embodies the highest ethical standards.

Based on this recognition, in 2006 we adopted the Code of Conduct for DENSO Group Associates, which clearly indicates the standards of conduct for each and every employee. In training and at workplace conferences, we utilize the Code for raising employees' awareness of compliance, which includes all domestic Group companies. Overseas Group companies use a regional version of the Code of Conduct for DENSO Group Associates, formulated by their regional headquarters in accordance with national and regional laws and customs.

## Promotion Structure

In 1997, DENSO created a Business Ethics and Compliance Committee chaired by a member of the Board to provide oversight in that area (currently the Risk Management Meeting). We have also installed committee structures, such as the Compliance Committee, and compliance promotion officers, such as compliance leaders, at the regional headquarters of each region of our collective global base. In doing so, we are building global systems that promote compliance, while at the same time promoting the development of organizational structures that take differing regional characteristics into consideration, introducing and operating reporting systems, and pursuing enlightenment activities.

## Specific Initiatives

### Educational and Enlightenment Activities

DENSO implements various educational and enlightenment activities for employees on an ongoing basis with the aim of enhancing their overall awareness of compliance matters.

In Japan, we carry out educational and enlightenment activities related to compliance, including position-based training, various e-learning programs, and the "Business Ethics Month" (every October). We also roll out similar activities for employees in each region of operations, centered on our regional headquarters.

### Inspection and Improvement of Activities

DENSO conducts inspections to ascertain whether its compliance activities have sufficiently taken hold and to look for any potential compliance issues. If an issue is discovered, reports are made to senior management when necessary, and steps are taken to prevent a recurrence of the issue.

For example, DENSO CORPORATION holds a sustainability survey every year in order to gain an understanding on the extent to which compliance-related measures have taken hold and on potential compliance risks.

## Response to Antitrust Laws

In February 2010, the U.S.-based subsidiary DENSO International America was investigated by the U.S. Department of Justice. Since then, we have established the Antitrust Laws Compliance Committee, chaired by the representative member of the Board. Under the guidance and supervision of this committee, we have endeavored to reinstitute strict compliance with the Antitrust Laws across the entire DENSO Group. These efforts have included ensuring strict adherence to laws and regulations, strengthening education about relevant rules, and conducting more precise audits regarding legal compliance.

## Response to Anti-Bribery Laws

DENSO formulated the Global Anti-Bribery Policy to serve as its basic approach to preventing bribery. At the same time, the Company established the Compliance and Anti-Bribery Committee, which is chaired by a relevant Company member of the Board. This committee takes the lead and provides supervision on the formulation of bribery prevention rules and the promotion of employee awareness and education measures through e-learning. We also have Sustainability Guidelines for Suppliers in place to prevent bribery between suppliers and third parties. In these ways, we are working to thoroughly prevent bribery throughout the supply chain.

## Response to Tax Compliance

DENSO believes that paying its fair share of taxes is a part of being socially responsible. The Member of the Board and CFO has been designated as the person in charge of tax governance. The Company has built, maintains, and improves a tax compliance structure, and engages in tax planning while addressing tax-related risks when they materialize. DENSO has established the Global Tax Policy. Under this policy, we actively engage in activities for tax compliance on a Groupwide basis, such as providing training for employees and abiding by rules for cross-border transactions.

## Fiscal 2022 Taxes by Region

(¥ billion)

Region	Tax amount
Japan	13.3
North America	3.9
Europe	2.3
Asia/Oceania	39.2
Other regions	2.8
Total	61.6

Please see the "Sustainability Information" section of our corporate website for more information.  
Compliance:  
<https://www.denso.com/global/en/about-us/sustainability/governance/compliance/>



Please see our corporate website for information on tax compliance.  
<https://www.denso.com/global/en/about-us/sustainability/governance/tax-policy>





# Corporate Data

118 Facts & Figures

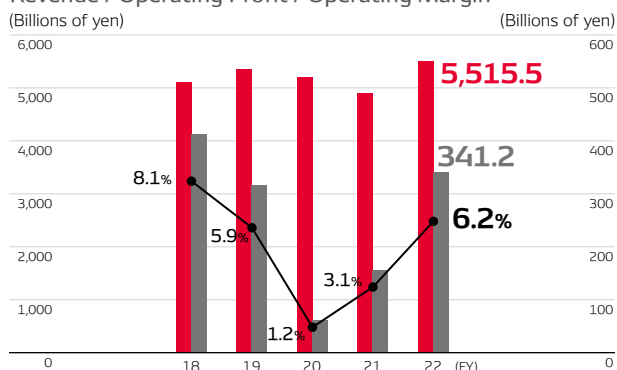
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# Facts & Figures

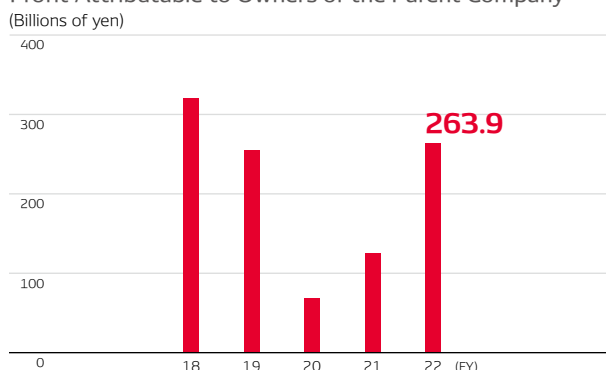
## Financial Highlights

Revenue / Operating Profit / Operating Margin



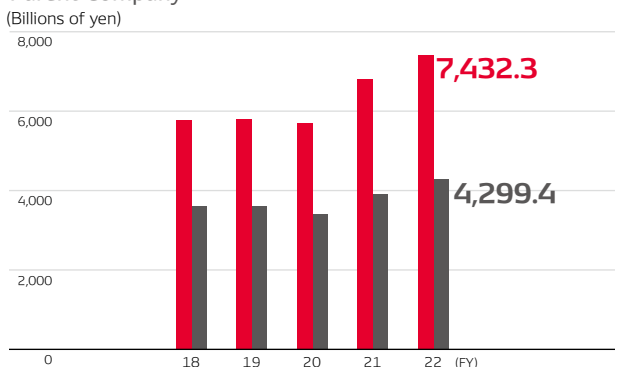
■ Revenue (left scale) ■ Operating profit (right scale) ◆ Operating margin  
In fiscal 2022, despite a reduction in vehicle production, the Company achieved record-high revenue owing to the recovery in the market from the impact of the COVID-19 pandemic. Operating profit increased due to an improved rate of operation and the effects of in-house activities to promote "Reborn21," which help offset the impact of worsening conditions in the external environment.

Profit Attributable to Owners of the Parent Company



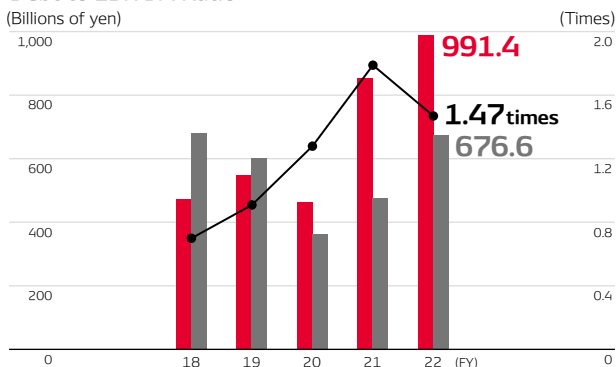
Profit attributable to owners of the parent company increased due to an improved rate of operation and a recovery in operating profit resulting from the effects of in-house activities to promote "Reborn21," despite the impact of worsening conditions in the external environment.

Total Assets / Equity Attributable to Owners of the Parent Company



■ Total assets ■ Equity attributable to owners of the parent company  
Total assets stood at ¥7,432.3 billion, an increase of ¥664.6 billion compared with the previous fiscal year-end, due to an increase in inventories.

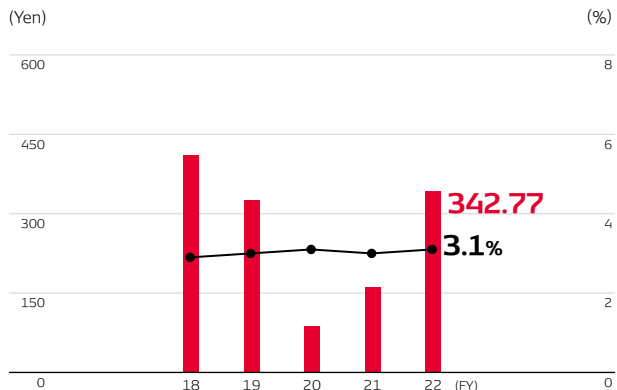
Interest-Bearing Debt\*1 / EBITDA\*2 / Interest-Bearing Debt to EBITDA Ratio



■ Interest-bearing debt (left scale) ■ EBITDA (left scale) ◆ Interest-bearing debt to EBITDA ratio (right scale)  
\*1 Interest-bearing debt = Short-term loans and short-term bonds (including long-term loans to be repaid within one year) + Long-term loans  
\*2 EBITDA = Operating profit + Depreciation

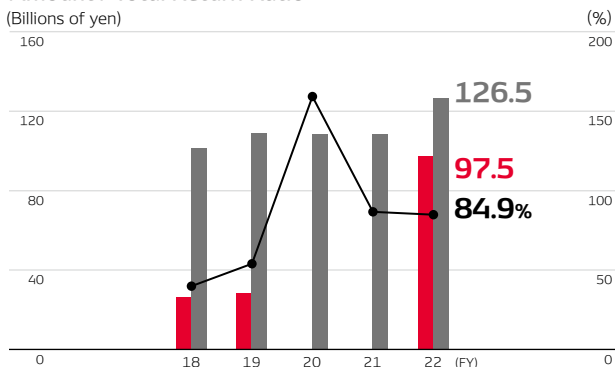
In terms of interest-bearing debt, the Company curtails capital increases through the proactive utilization of loans while maintaining a balance with sufficient financial soundness and efficiency, thereby working to enhance capital efficiency. In fiscal 2022, EBITDA increased due to the rise in operating profit and depreciation.

EPS / DOE



■ EPS (left scale) ◆ DOE (right scale)  
Based on the approach of providing stable shareholder returns over the long term, the Company has determined dividend standards focused on DOE (dividend on equity). In fiscal 2022, DOE increased 1 percentage point, to 3.1%.

Amount of Treasury Stock Acquired / Total Dividend Amount / Total Return Ratio



■ Amount of treasury stock acquired (left scale) ■ Total dividend amount (left scale) ◆ Total return ratio (right scale)  
After forecasting its future capital structure, the Company flexibly acquires treasury stock taking into account the realization of a targeted shareholders' equity ratio and the status of its market share price. In fiscal 2022, the Company acquired treasury stock at an unprecedented scale, totaling ¥97.5 billion.



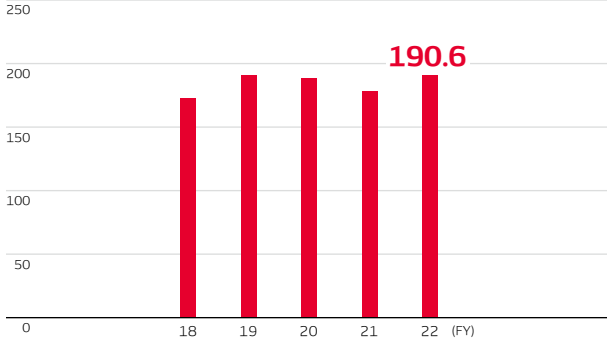
Please see the following URL for more financial information.

<https://www.denso.com/global/en/-/media/global/about-us/investors/settlement/2022/financial-report2022.pdf>



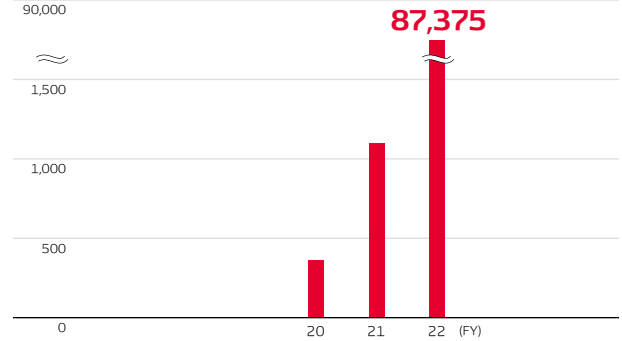
## Non-Financial Highlights

CO<sub>2</sub> Emissions (Global, Scope 1 + Scope 2 Emissions)  
(10,000 t-CO<sub>2</sub>)



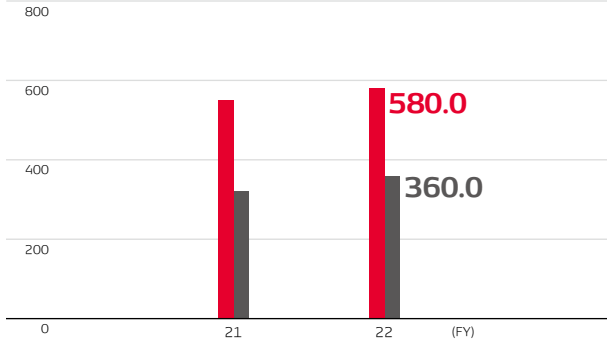
We are working toward introducing energy-efficient facilities and renewable energy with a view to achieving carbon neutrality by 2035.

Amount of Renewable Energy Introduced (Non-Consolidated)  
(MWh)



In fiscal 2022, we realized 100% introduction of renewable energy at the Anjo Plant, thereby helping to reduce CO<sub>2</sub> emissions. From fiscal 2023 onward, we will gradually introduce renewable energy at other locations.

Promotion of Products Offering Green and Peace of Mind  
(Revenue)  
(Billions of yen)

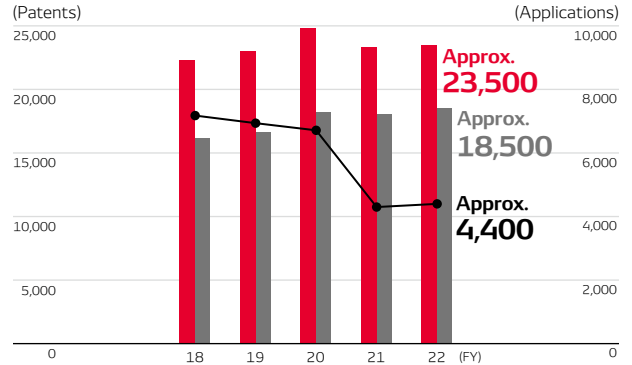


■ Green: Electrification domain ■ Peace of mind: ADAS domain

Revenue increased year on year in both the green and peace of mind domains due to expanded sales of products in the electrification domain, such as inverters and heat management systems, and an increased installation rate of advanced safety-related products, including Global Safety Package 3. Going forward, the Company will continue to introduce and expand sales of new technologies with the aim of realizing ¥1,000 billion and ¥500 billion in the electrification and ADAS domains, respectively, by 2025.

Note: Data collection commenced in fiscal 2021.

Number of Patents Held and Patent Applications Filed  
in Japan and Overseas



■ No. of patents held in Japan (left scale)

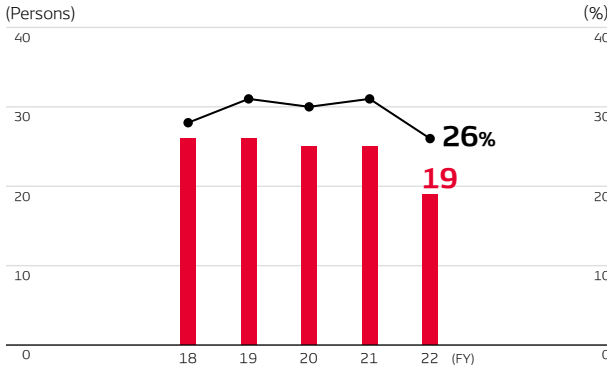
■ No. of patents held overseas (left scale)

◆ No. of patent applications filed in Japan and overseas (right scale)

Note: The number of patent applications filed shows the total number of filings in Japan and overseas. This figure includes patents filed during DENSO's fiscal year. The number of patent applications filed in Japan includes withdrawn items for priority claim based on Japanese patent applications and divisional applications. The number of patent applications filed overseas includes continuing and divisional applications.

Intellectual properties (IP) provide the source of the Company's competitiveness. To that end, the Company seeks to create, acquire, and effectively utilize IP through proactive research and development activities. The number of new patent registrations in the automotive industry in fiscal 2022 was four in Japan and seven in the United States.

Number and Ratio of Local Employees in Leadership Roles  
at Overseas Bases

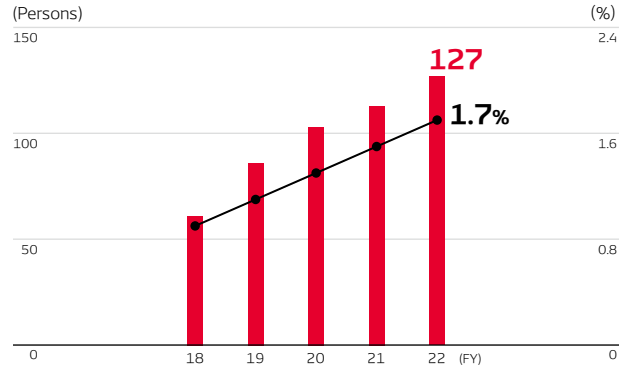


■ Number of local employees in leadership roles at overseas bases (left scale)

◆ Ratio of local employees in leadership roles at overseas bases (right scale)

DENSO is promoting initiatives on a global scale to realize a working environment and organizational culture that enables active and fulfilling roles for diverse human resources in terms of gender, gender identity, sexual orientation, age, race, nationality, religion, and disabilities as well as in terms of unseen differences such as experience and value systems. With regard to overseas human resources, in fiscal 2023, we adopted the target of appointing 20 local personnel in leadership roles at our major overseas consolidated management companies and will focus our efforts on systematically cultivating personnel for leadership positions so that we can reach this target. For promoting the active role of women, we adopted a target of appointing 200 women for management positions in business fields and 200 women for management positions in technical fields by fiscal 2026. Going forward, we will continue to engage in such efforts as roundtable discussions between female employees serving as role models and other female employee and diversity training for supervisors.

Number and Ratio of Female Employees in Management  
Positions (Non-Consolidated, Business Fields)



■ Number of female employees in management positions (left scale)

◆ Ratio of female employees in management positions (right scale)



## 10-Year Data

		Japanese GAAP	IFRS		
		2013	2014	2015	
Financial Data	Revenue	Total	3,580.9	4,095.0	4,309.8
	By Region*1	Japan	1,808.9	1,895.5	1,838.4
		North America	625.0	799.4	942.3
		Europe	348.8	470.5	524.8
		Asia	734.5	855.4	930.8
		Others	63.8	74.1	73.5
	By Customer	OEM	3,220.0	3,639.5	3,830.7
		Toyota Group	1,832.0	1,995.8	2,007.1
		Ratio of revenue from Toyota Group transactions to total revenue	51.2%	48.7%	46.6%
		Aftermarket and non-automotive	360.9	455.5	479.1
	Operating Profit		262.4	371.4	331.4
	Operating Margin		7.3%	9.1%	7.7%
	Profit Attributable to Owners of the Parent Company		181.7	277.2	258.4
	Return on Equity (ROE)		8.4%	11.5%	8.4%
	Capital Expenditures		230.6	324.1	354.2
	Depreciation		181.1	197.2	220.1
	Ratio of Depreciation to Revenue		5.1%	4.8%	5.1%
	R&D Expenditure		335.5	368.7	396.4
	Ratio of R&D Expenditure to Revenue		9.4%	9.0%	9.2%
	Total Dividend Amount		51.2	83.7	87.7
	Amount of Treasury Stock Acquired		27.5	—	—
	Earnings per Share (EPS) (yen)		226.59	348.05	324.01
	DOE		2.4%	3.4%	3.0%
	Cash Dividends per Share (yen)		64	105	110
	Dividend Payout Ratio		28.2%	30.2%	34.0%
	Total Return Ratio		43.3%	30.2%	34.0%
	Stock Price (yen)		3,985	4,948	5,483
	Dividend Yield		1.6%	2.1%	2.0%
	Price Earnings Ratio (PER) (times)		17.6	14.2	16.9
	Price Book-Value Ratio (PBR) (times)		1.4	1.5	1.3
Net Cash Provided by Operating Activities (A)		374.8	471.2	383.2	
Net Cash Used in Investing Activities (B)		(269.2)	(376.0)	(111.5)	
Free Cash Flow (A+B)		105.6	95.2	271.7	
Net Cash Provided by (Used in) Financing Activities		(98.5)	(176.0)	(135.7)	
Cash and Cash Equivalents at End of Year		707.3	641.7	792.4	
Cash on Hand		1,095.2	1,034.1	944.0	
Interest-Bearing Debt		507.5	435.7	447.2	
Equity Attributable to Owners of the Parent Company		2,300.1	2,799.9	3,327.9	
Total Assets		3,979.1	4,642.1	5,283.3	
Ratio of Equity Attributable to Owners of the Parent Company to Total Assets		57.8%	60.3%	63.0%	
Non-Financial Data	Number of Employees		132,276	139,842	146,714
	Local		67,525	74,289	81,060
	Non-Consolidated		38,385	38,581	38,493
	Ratio of Female Employees (Non-Consolidated)		11.4%	11.6%	11.9%
	Number of Female Employees in Management Positions (Non-Consolidated, Business Fields)		30	33	40
	Ratio of Female Employees in Management Positions (Non-Consolidated, Business Fields)		0.5%	0.5%	0.6%
	Number of Local Employees in Leadership Roles at Overseas Bases		21	22	24
	Ratio of Local Employees in Leadership Roles at Overseas Bases		30%	31%	33%
	CO <sub>2</sub> emissions (global) (10,000 t)*2		152.1	158.2	166.0
	Amount of renewable energy introduced (Non-Consolidated) (MWh)		—	—	—
	Exchange Rate (during FY)	USD (yen)		83	100
EUR (yen)			107	134	139
Chinese yuan (yen)			13	16	18

\*1 The countries and regions included in "by region" have changed as follows. Fiscal 2013–fiscal 2015: Japan, North America, Europe, Australia, and Others; fiscal 2016 onward: Japan, North America, Europe, Asia, and Others

\*2 CO<sub>2</sub> emissions from fiscal 2019 onward have been calculated based on the Basic Guidelines on Accounting for Total Greenhouse Gas Emissions. In addition, from fiscal 2022, we have been reflecting the portion of emissions offset by the use of carbon credits in our calculations.

CONTENTS	PROLOGUE	CEO MESSAGE	DENSO's Value Creation Story	Growth Strategy	Foundation for Creating New Value	Overview by Product	Corporate Governance	Corporate Data
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Billions of yen

IFRS							
	2016	2017	2018	2019	2020	2021	2022
	4,524.5	4,527.1	5,108.3	5,362.8	5,153.5	4,936.7	5,515.5
	1,801.5	1,871.8	2,140.7	2,284.2	2,313.0	2,280.7	2,375.7
	1,081.1	1,050.5	1,122.8	1,182.0	1,145.2	999.9	1,143.9
	568.2	550.2	620.2	609.4	548.3	482.3	506.2
	1,014.7	989.5	1,146.0	1,215.1	1,086.9	1,134.1	1,414.3
	59.0	65.1	78.5	72.0	60.0	39.8	75.4
	4,048.2	4,061.8	4,521.4	4,762.3	4,558.7	4,347.0	4,875.1
	2,047.5	2,075.0	2,300.6	2,484.7	2,456.9	2,499.1	2,837.6
	45.3%	45.8%	45.0%	46.3%	47.7%	50.6%	51.4%
	476.3	465.3	586.9	600.5	594.8	589.7	640.4
	315.7	330.6	412.7	316.2	61.1	155.1	341.2
	7.0%	7.3%	8.1%	5.9%	1.2%	3.1%	6.2%
	244.3	257.6	320.6	254.5	68.1	125.1	263.9
	7.6%	8.0%	9.3%	7.1%	1.9%	3.4%	6.4%
	334.1	337.4	347.2	416.8	436.5	374.3	353.9
	236.8	241.1	268.6	287.3	302.1	323.0	335.4
	5.2%	5.3%	5.3%	5.4%	5.9%	6.5%	6.1%
	399.3	409.2	447.4	497.4	507.8	492.0	497.6
	8.8%	9.0%	8.8%	9.3%	9.9%	10.0%	9.0%
	95.3	94.6	101.4	108.9	108.5	108.5	126.5
	27.7	30.0	26.5	28.4	0	0	97.5
	307.19	326.32	410.45	326.47	87.89	161.39	342.77
	3.0%	2.9%	2.9%	3.0%	3.1%	3.0%	3.1%
	120	120	130	140	140	140	165
	39.1%	36.8%	31.7%	42.9%	159.3%	86.7%	48.1%
	50.4%	48.4%	39.9%	54.0%	159.3%	86.7%	84.9%
	4,524	4,897	5,820	4,317	3,491	7,347	7,860
	2.7%	2.5%	2.2%	3.2%	4.0%	1.9%	2.1%
	14.7	15.0	14.2	13.2	39.7	45.5	22.9
	1.1	1.2	1.3	0.9	0.8	1.5	1.4
	552.9	467.8	558.0	533.5	595.3	437.2	395.6
	(544.8)	(108.0)	(529.1)	(514.7)	(447.4)	(395.9)	(301.6)
	8.0	359.7	28.9	18.8	147.9	41.3	94.1
	(104.7)	(240.5)	(40.3)	(92.2)	(240.9)	238.7	(159.5)
	672.5	793.6	783.3	711.6	597.8	897.4	867.8
	876.7	858.4	918.3	880.8	711.6	911.7	876.1
	476.6	350.3	473.9	550.2	465.4	854.2	991.4
	3,123.6	3,312.7	3,598.3	3,595.7	3,397.1	3,891.0	4,299.4
	5,042.9	5,150.8	5,764.4	5,792.4	5,651.8	6,767.7	7,432.3
	61.9%	64.3%	62.4%	62.1%	60.1%	57.5%	57.8%
	151,775	154,493	168,813	171,992	170,932	168,391	167,950
	85,464	86,892	94,209	95,222	93,343	89,124	88,345
	38,489	38,914	39,315	45,304	45,280	46,272	45,152
	12.3%	12.7%	13.1%	13.9%	14.2%	14.6%	15.1%
	46	53	61	86	103	113	127
	0.7%	0.8%	0.9%	1.1%	1.3%	1.5%	1.7%
	25	25	26	26	25	25	19
	34%	32%	28%	31%	30%	31%	26%
	159.1	164.5	173.1	190.7	188.4	178.3	190.6
	—	—	—	—	364	1,100	87,375
	120	108	111	111	109	106	112
	133	119	130	128	121	124	131
	19	16	17	17	16	16	18

# Company Overview and Stock Information

(As of March 31, 2022)

## Company Profile

Company Name	DENSO CORPORATION
Established	December 16, 1949
Capital	¥187.5 billion
Head Office	1-1, Showa-cho, Kariya, Aichi 448-8661, Japan
Employees	Consolidated basis: 167,950 Non-consolidated basis: 45,152
Consolidated Subsidiaries	198 (Japan 63, North America 21, Europe 27, Asia 80, Others 7)
Companies Accounted for by the Equity Method	84 (Japan 23, North America 11, Europe 17, Asia 29, Others 4)
Fiscal Year	From April 1 to March 31
Ordinary General Meeting of Shareholders	June
Share Trading Unit	100 shares
Number of Shares Issued	763,361,955 shares (excluding DENSO CORPORATION owning 24,582,996 shares of treasury stock)
Number of Shareholders	78,114 (including DENSO CORPORATION owning treasury stock)
Securities Identification Code	6902
Stock Exchange Listings	Tokyo, Nagoya

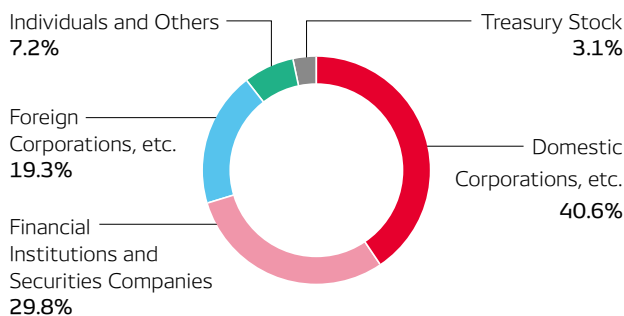
## Principal Shareholders (Top 10 Principal Shareholders)

	Number of shares held (thousands)	Voting share (%)
Toyota Motor Corporation	188,949	24.75
The Master Trust Bank of Japan, Ltd. (Trust account)	98,455	12.89
Toyota Industries Corporation	69,373	9.08
Custody Bank of Japan, Ltd. (Trust account)	35,255	4.61
Towa Real Estate Co., Ltd.	33,309	4.36
Nippon Life Insurance Company (Standing proxy: The Master Trust Bank of Japan, Ltd.)	21,664	2.83
DENSO Employees' Shareholding Association	12,683	1.66
AISIN CORPORATION	12,544	1.64
STATE STREET BANK WEST CLIENT – TREATY 505234 (Standing proxy: Settlement & Clearing Services Department, Mizuho Bank, Ltd.)	7,384	0.96
SSBTC CLIENT OMNIBUS ACCOUNT (Standing proxy: Tokyo Branch, The Hongkong and Shanghai Banking Corporation Limited)	7,241	0.94

### Notes:

- The Company holds treasury stock of 24,583 thousand shares, but is excluded from the list of major shareholders above.
- "Voting share" is calculated after excluding 24,583 thousand shares of treasury stock.
- "Investment in the Company" by Toyota Industries Corporation is stated after excluding the Company's 6,798 thousand shares (ratio of voting rights: 0.89%), which are contributed as a trust asset for employees' retirement benefits by Toyota Industries Corporation. (These shares are registered in the name of "Custody Bank of Japan, Ltd. (Trust Account of Toyota Industries Corporation Employees' Retirement Benefits for the Re-trust by Sumitomo Mitsui Trust Bank, Limited)," and Toyota Industries Corporation reserves the right of instruction in exercising the shares' voting rights.)
- Towa Real Estate Co., Ltd. changed its trade name to TOYOTA FUDOSAN CO., LTD. on April 27, 2022.

## Breakdown of Shareholders



## ESG-related External Evaluation

DENSO has received high external evaluation in terms of its ESG initiatives, including being consistently selected for inclusion in indices in Japan and overseas. In recognition of its IR activities and stance on information disclosure, the Company received the 2021 Awards for Excellence in Corporate Disclosure in the Automobiles/Parts/Tires division.

*Integrated Report 2021* received the Silver Award of the WIC Japan Integrated Report Award 2021, hosted by WICI (World Intellectual Capital/Assets Initiative) Japan. In addition, the report was selected as an "Excellent Integrated Report" by the Government Pension Investment Fund (GPIF)'s asset managers entrusted with domestic equity investment.



2022 CONSTITUENT MSCI JAPAN  
ESG SELECT LEADERS INDEX



FTSE4Good



FTSE Blossom  
Japan



FTSE Blossom  
Japan Sector  
Relative Index



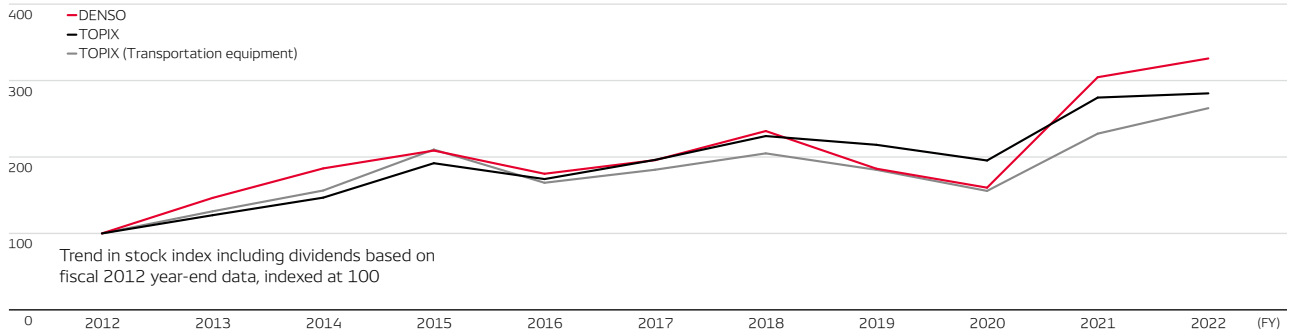
Notes: 1. The inclusion of DENSO CORPORATION in any MSCI index, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of DENSO CORPORATION by MSCI or any of its affiliates. The MSCI indexes are the exclusive property of MSCI. MSCI and the MSCI index names and logos are trademarks or service marks of MSCI or its affiliates.

2. FTSE Russell (the trading name of International Limited and Frank Company) confirms that DENSO CORPORATION has been independently assessed according to the FTSE4Good criteria, and has satisfied the requirements to become a constituent of the FTSE4Good Index Series. Created by the global index provider FTSE Russell, the FTSE4Good Index Series is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE4Good indices are used by a wide variety of market participants to create and assess responsible investment funds and other products.

3. FTSE Russell (the trading name of FTSE International Limited and Frank Russell Company) confirms that Denso Corporation has been independently assessed according to the FTSE Blossom Japan Sector Relative Index criteria, and has satisfied the requirements to become a constituent of this index. Created by the global index provider FTSE Russell, the FTSE Blossom Japan Index Series is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE Blossom Japan indices are used by a wide variety of market participants to create and assess responsible investment funds and other products.

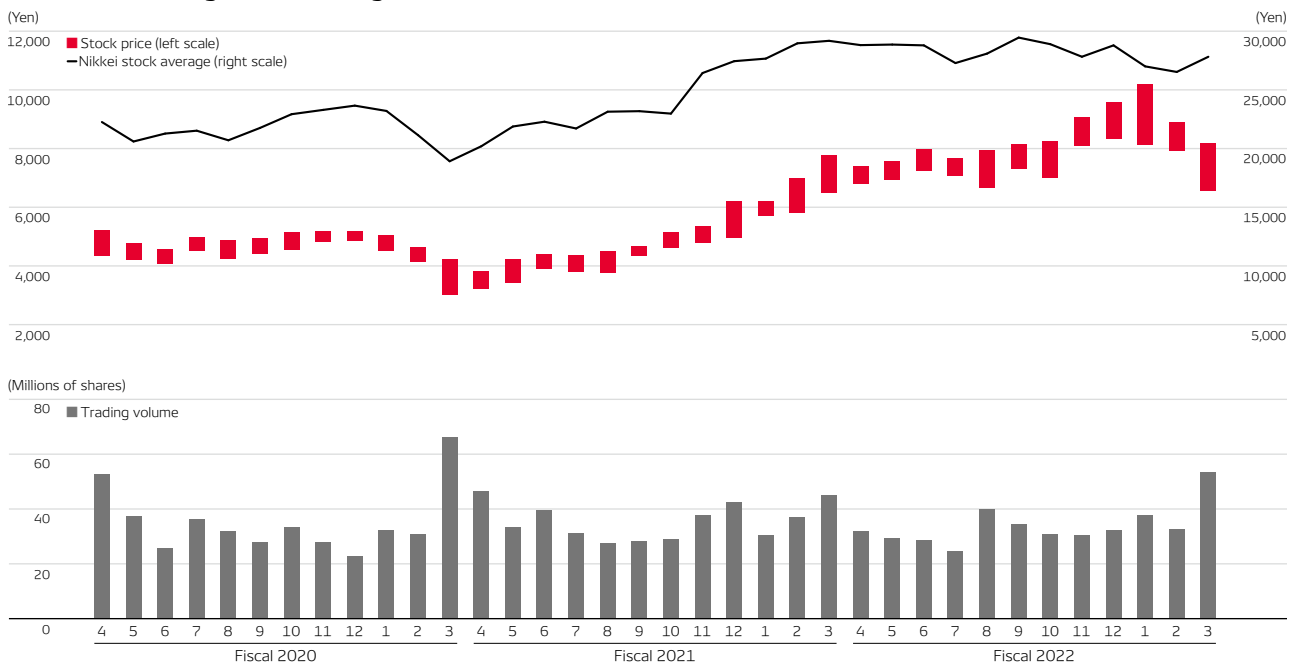
4. Evaluations listed are those received as of September 30, 2022.

### Trend in TSR\*



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

### Stock Price Range and Trading Volume (Tokyo Stock Exchange)



### Overview of DENSO's Corporate Website

<https://www.denso.com/global/en/>



#### Message from the Integrated Report Production Team

Thank you for reading *Integrated Report 2022*. We hope that this report has helped you gain an understanding of the value creation process that DENSO has adopted, centered on maximizing the value of "green" and "peace of mind." Going forward, to ensure we can create corporate value together with our stakeholders, we will continue to promote IR activities such as timely and appropriate information disclosure and dialogue with all those who make use of this report.



## **DENSO CORPORATION**

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