

# Integrated Report 2019

For the year ended March 31, 2019



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

Credibility

Providing quality and reliability beyond

customer expectations

**Quality First** 

Creativity

Challenge

On-site Verification

*Kaizen,* Continuous Improvement

## Collaboration

Achieving the highest results by working as a team

Communication

Teamwork

Human Development









DENSO



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## **REINFORCING THE** STRENGTHS AND FOUNDATION THAT SUPPORT GROWTH

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#### Editorial Policy

In addition to providing financial information, such as results and sales overviews as well as management strategy, DENSO Integrated Report 2019 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 we 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 "international integrated reporting framework" that is proposed by the International Integrated Reporting Council (IIRC), as well as the "Guidance for Integrated Corporate Disclosure and Company-Investor Dialogue for Collaborative Value Creation," formulated by the Ministry of Econom Trade and Industry. In addition, with regard to social

reporting and the environment, please refer to the "Sustainability" section of the Company's website.

#### 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

#### Regarding Fiscal Year Presentation

Fiscal 2019 refers to the fiscal year ended March 31, 2019.

## Positioning of Integrated Report

Please see DENSO's corporate website for PDF format. https://www.denso.com/global/en/ investors/library/annual\_report/

#### Financial Information

DENSO Website (Investors) Financial Results Securities Report, etc.

#### Integrated Report

(Sustainability Information) Report on Social

- Responsibility
- Environmental Report
- Corporate Governance, etc.

Non-Financial

Information

DENSO Website

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for the Next Generation

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## **TCFD INDEX**



DENSO has pledged its support for the Task Force on Climate-related Financial Disclosures (TCFD). For *DENSO Integrated Report 2019,* 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.

_			
	DENSO Integrated Report 2019	DENSO's Corporate Website	
	a) Describe the Board's oversight of climate-related risks and opportunities		
ce	P22: CEO MESSAGE > Promotion of Sustainability Management P.76: Corporate Governance > Corporate Governance System	Sustainability > Corporate Governance > Corporate Governance > Corporate Governance System and Principal Organizations: https://www.denso.com/global/en/csr/governance/governance/ Sustainability > DENSO's Sustainability > Sustainability Management > Promotion Structure: https://www.denso.com/global/en/csr/csr-policy/policy/ Custeinability > Demoterate Decements / Management > Demotion Structure:	
Governance		Sustainability>Environmental Report>Environmental Management>Promotion Structure: https://www.denso.com/global/en/csr/environment-report/risk/	
/eri	b) Describe management's role in assessing and managing climate-related risks and opportunities		
GO	P22: CEO MESSAGE > Promotion of Sustainability Management P.76: Corporate Governance > Corporate Governance System	Sustainability>Corporate Governance>Corporate Governance>Corporate Governance System and Principal Organizations: https://www.denso.com/global/en/csr/governance/governance/ Sustainability>DENSO's Sustainability>Sustainability Management>Promotion Structure: https://www.denso.com/global/en/csr/csr-policy/policy/	
		Sustainability>Environmental Report>Environmental Management>Promotion Structure: https://www.denso.com/alobal/en/csr/environment-report/risk/	
_	a) Describe the climate-related risks and opportunities the organization has		
	P.22: CEO MESSAGE > Promotion of Sustainability Management	Sustainability>DENSO's Sustainability>Sustainability Management>Materiality:	
	P.26–27: Awareness of Business Environment	https://www.denso.com/global/en/csr/csr-policy/policy/	
	P.28: Outline of Management Policies P.29: Long-term Policy	Sustainability>Environmental Report>Eco Vision: https://www.denso.com/qlobal/en/csr/environment-report/ecovision/	
	P.30: Materiality	Sustainability>Environmental Report>Environmental Action Plan>Identifying Priority Issues:	
	P58–59: Business Strategy	https://www.denso.com/global/en/csr/environment-report/promotion/	
	h) Describe the impact of slimete velocid vision and second vision on the sec	nation's businesses stategy and Energial planning	
	<ul> <li>b) Describe the impact of climate-related risks and opportunities on the org P26–27: Awareness of Business Environment</li> </ul>	anization's businesses, strategy, and financial planning About Us>Business Fields>DENSO's New Business Fields>Energy Management,	
N	P.28: Outline of Management Policies	Biotechnology (Micro Algae):	
Strategy	P.30: Materiality P.32: Long-term Plan>Four Focus Fields>Electrification, Connected Cars	https://www.denso.com/global/en/about-us/business-fields/	
tra	P.42-43: Accelerating External Collaboration	Sustainability>DENSO's Sustainability>Process to Deliver Value to Society>Green: https://www.denso.com/global/en/csr/csr-policy/feature/	
Ś	P.46: Manufacturing Capital > Minimum CO2 <i>Monozukuri</i> P.50: Intellectual Capital	Sustainability>Environmental Report>Product Environmental Management (Eco-Products),	
	P.52: Social and Relationship Capital > Promotion of Sustainability	Environmental Management in Production (Eco-Factory): https://www.denso.com/global/en/csr/environment-report/	
	Together with Our Suppliers>Thorough Implementation of Green Procurement According to the Green Procurement Guidelines	Sustainability>Environmental Report>Eco Vision>ENERGY 1/2:	
	P.55: Strengthening Our Organizational Capabilities > Organizational	https://www.denso.com/global/en/csr/environment-report/ecovision/energy/ Innovation:	
	Reform to Accelerate the Long-term Plan P.58–59: Business Strategy	https://www.denso.com/global/en/innovation/	
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario		
	P.58–59: Business Strategy		
	a) Describe the organization's processes for identifying and assessing clima	te-related risks	
	P.30: Materiality	Sustainability>Environmental Report>Environmental Management>Promoting Consolidated	
	P.87: Risk Management	Environmental Management, Environmental Risk Management:	
nt		https://www.denso.com/global/en/csr/environment-report/risk/ Sustainability>DENSO's Sustainability>Sustainability Management>Materiality:	
Risk Management		https://www.denso.com/global/en/csr/csr-policy/policy/	
age	b) Describe the organization's processes for managing climate-related risks		
ana	P.30: Materiality	Sustainability>Environmental Report>Environmental Management>Promoting Consolidated	
M	P.87: Risk Management	Environmental Management, Environmental Risk Management: https://www.denso.com/global/en/csr/environment-report/risk/	
kisl.		Sustainability>DENSO's Sustainability>Sustainability Management>Materiality:	
ш		https://www.denso.com/global/en/csr/csr-policy/policy/	
	c) Describe how processes for identifying, assessing, and managing climate	related risks are integrated into the organization's overall risk management Sustainability>Corporate Governance>Risk Management:	
	P.87: Risk Management	https://www.denso.com/global/en/csr/governance/riskmanage/	
	a) Disclose the metrics used by the organization to assess climate-related r	isks and opportunities in line with its strategy and risk management process	
	P.30: Materiality	Sustainability>Environmental Report>Environmental Policy "Eco Vision":	
		https://www.denso.com/global/en/csr/environment-report/ Sustainability>Report on Social Responsibility>Responsibility to Business	
		Partners>Promoting Sustainability throughout the Supply Chain>Green Procurement	
ets		Guidelines: https://www.denso.com/global/en/csr/sociality-report/suppliers/supply-chain/	
rge	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (0		
I Ta	P.91: Non-Financial Highlights >CO2 Emissions per Unit	Sustainability>Environmental Report>Detailed Data on Group Activities:	
and	(Non-Consolidated) P.92–93: 10-Year Data>Non-Financial Data>CO2 Emissions per Unit	https://www.denso.com/global/en/csr/environment-report/data/	
ics	(Non-Consolidated), CO2 Emissions per Unit (Domestic and		
Metrics and Targets	Overseas Group)		
Σ	c) Describe the targets used by the organization to manage climate-related		
	P.91: Non-Financial Highlights > CO₂ Emissions per Unit (Non- Consolidated), In-house Power Generation Ratio (Non-Consolidated)	Sustainability>Environmental Report>Environmental Action Plan: https://www.denso.com/global/en/csr/environment-report/promotion/	
	P.92–93: 10-Year Data>Non-Financial Data>CO₂ Emissions per Unit	Sustainability>Environmental Report>Detailed Data on Group Activities:	
	(Non-Consolidated), CO₂ Emissions per Unit (Domestic and Overseas Group), In-house Power Generation Ratio	https://www.denso.com/global/en/csr/environment-report/data/	
	(Non-Consolidated)		

## Overall Layout of DENSO Integrated Report 2019

## 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 2019* 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.



A DENSO Philosophy P.1 Sustainability Management P.6–19, 28–33	A Universal Way of Thinking The DENSO Philosophy is our universal way of thinking that will forever remain unchanged. In addition, sustainability management is an ideology that we have passed down since our inception and serves as the core of our management approach.	
Awareness of Business Environment	DENSO Philosophy Sustainability Management Awareness of Business Environment Long-term Policy	
G DENSO's Value Creation Process ······ P.16–17 Crucial Elements of the Value Creation Process ······ P.8–15 Efforts to Improve Corporate Governance ····· P.75 Corporate Governance System ···· P.76–79 Compensation of Directors and Audit & Supervisory Board Members ···· P.80	C Value Creation Process Grounded in a universal value system, DENSO aims to continue to be a company that inspires society by realizing its Long-term Policy through its business activities. Guided by this aim, we continue to realize growth.	
Strategic Shareholdings P.81 Messages from the Outside Directors P.82–83 Directors and Audit & Supervisory Board Members P.84–85 Compliance P.86	<b>F</b> Corporate Governance We have put in place a governance framework that allows us to steadily execute strategies and continuously improve our corporate value.	

Risk Management ----- P.87

## С

E

D

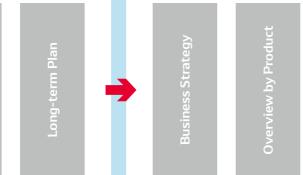
Outline of Management Policies F	28
Long-term Policy F	29
Materiality	2.30
Related SDGs ······ F	2.30
Long-term Plan P.31-	-32
Mid-term Plan F	233

#### C Strategies for Achieving Our Targets

To realize the targets in our current Long-term Policy, we have formulated material issues (Materiality) that DENSO must prioritize. Also, as a pathway to reaching our Long-term Policy, we have formulated the Long-term Plan under which we have adopted various growth targets.

#### E Progress of Business Strategies

Based on **C** (strategies for achieving our targets), we are implementing strategies in each of our six core businesses, which are already producing results.



Leveraging and enhancing our strengths and capital

#### D Strengths and Corporate Foundation That Support Our Growth

The strengths that we have cultivated since our inception provide us with competitiveness and drive our growth. The capitals that we have accumulated throughout our history serve as our foundation for growth and support our business activities. In addition, we are constantly striving to refine our strengths while working to enhance our capitals through the growth of our businesses.

**DENSO's Strengths** 

**DENSO's Capitals** 

DENSO's Businesses (Overview) P.14-15
Environmental Awareness by Business
Risks and Opportunities
by BusinessP.58–59
Business Strategy P.58-59
Overview by Product P.60–73
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DENSO's Strengths (Overview) P.10-11	
DENSO's Capitals (Overview) P.12-13	
Reinforcing Our Strengths P.36-43	
Strengthening Capitals P.44–55	,

COVER STORY

# Providing a better future

To provide a better future for the next generation amid a paradigm shift, which occurs once every 100 years, we will reaffirm our significance to society as we accelerate sustainability management—the management ideology we have adopted since our founding—going forward.

## **Crafting the Core**

Look at the world with a brighter vision for the future.
Cherish nature and learn to live together in harmony.
Welcome changes and meet challenges unafraid.
Embrace diversity and cooperate to enhance technologies.
More than ever before, we will value the DENSO tradition of *Monozukuri* as we pursue new value and create new "Cores" for years to come.
After all, everything we do is to provide a better future for the next generation.

# for the next generation

R

## COVER STORY DENSO'S History

# Innovation and Growth That Anticipates Social Change

DENSO's innovation begins with a focus on the future and an understanding of people's happiness. Anticipating social change, DENSO has established its mission as resolving social issues from the perspective of sustainability. Guided by this mission, DENSO has realized growth while continuously pursuing innovation and creation. Throughout this process, DENSO has cultivated strengths and capital that act as its source for continuous value creation well into the future, thereby expanding its business domains.



# 1950s

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

At the time of our founding, we faced a difficult operating environment. This did not stop us from advancing the development and mass production of electric cars to address gasoline shortages. Since then, DENSO has continued to embrace a spirit of fully utilizing our capabilities in the pursuit of ongoing innovation to contribute to people's happiness. This spirit was fostered further as we reinforced our corporate foundation through technical cooperation with Robert Bosch GmbH and by successfully competing for the Deming Prize.



## 1960s

## Efforts to address air pollution in advance of tightening emission regulations

With the growing number of cars on the road, air pollution became an increasing problem. In its crusade against air pollution, DENSO succeeded in realizing the practical application of mechanical-type gasoline injection systems, as well as electronic control-type gasoline injection systems, anticipating the introduction of emission regulations. In addition, DENSO established a structure for the complete in-house production of integrated circuits (ICs), which did not exist at the time. In the years that followed, we remained a step ahead of the ever-more rigorous emission regulations by developing cutting-edge technologies.



## **1980s** Commercialization of safety systems for preventing traffic accidents

In step with the evolution of automotive safety technologies, DENSO took advantage of research dating back to the 1960s to commercialize anti-lock brake systems. We then proceeded to commercialize various safety systems, including airbag sensing systems and forward collision warning systems, to prevent traffic accidents and reduce the damages of those accidents that do occur.



# 1990s

Contributions to eco-friendly lifestyles with core technologies

DENSO focused on the development of car air-conditioning systems that used natural refrigerant or carbon dioxide (CO<sub>2</sub>) to curb the destruction of the ozone layer that was caused by conventional air-conditioning refrigerant. The resulting technologies were used to commercialize household heat pump hot water supply systems that contributed to energy savings for household use. Since then, we have continued to apply our core technologies, including those pertaining to water filters and QR codes, to develop products that enrich people's lives.

# 2000s

Acceleration of business-wide CO<sup>2</sup> reduction initiatives to combat global warming

Following a rise in concern for global warming, DENSO stepped up development of fuel-saving products in all fields. We also launched DENSO Eco Vision 2005 to share our environmental action guidelines with the worldwide DENSO Group. This vision was designed to be updated each decade to guide us in accelerating the development of eco-friendly products alongside initiatives for reducing CO<sub>2</sub> emissions and realizing zero emissions from business activities.

Revenue\*1



Sources for value creation cultivated through innovation

# Long-cultivated strengths

🗍 P.10–11

# Accumulated capital

🗍 P.12–13

## Expansive business domains

🗍 P.14–15

\*1 Fiscal 1951 to fiscal 1978 show non-consolidated revenue, while fiscal 1979 and after 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.)

\*2 Due to the change in DENSO's fiscal year in 1995, fiscal 2000, 2010, and 2018 represent the fiscal years ended March 31, 2001, 2011, and 2019, respectively.

1990

2000\*

2018\*<sup>2</sup>

**COVER STORY** Cultivated Strengths

# The Greatest Strengths That Have Driven DENSO's Growth

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.

## Research and Strength 1 Development Development

#### The Key to Our Strength

Commitment to world-firsts

**Global Development** Network

Advanced research with a view to the future

Through the accumulation of a long research and development (R&D) track record, which has supported our cutting-edge car manufacturing techniques, we are able to make full use of technologies that cover a broad range of fields, including chemistry, physics, electronic engineering, and software. This in turn enables us to create competitive products that will be useful in the future.

#### **Roots of Our Strengths**

- 1953 Established a technological and production base through a technical cooperation agreement with Robert Bosch GmbH. With this base, we aimed to become a comprehensive manufacturer of automotive parts that can keep pace with global companies
- 1971 Established Nippondenso of Los Angeles, Inc. The establishment of this company gave us an opportunity to significantly enhance the strengths of our technologies and products by expanding overseas ahead of car manufacturers.
- 1991 Established the Fundamental Research Center. At this center, we carried out R&D activities that covered a wide range of fields with a view toward creating technologies for five to 20 years in the future. Accordingly, this center served as a foothold for the various technological development activities we pursue today.



## Strength 2

# Monozukuri 💷 P.38-39

The Key to Our Strength

World-leading production engineering

Factory-loT that brings out the knowledge of people to the greatest extent possible Excellent factory (EF) activities that realize growth for both plants and people

Through our *Monozukuri* capabilities that combine our technologies and techniques, we create innovative, world-first ideas one after the other. Through the high-level production technologies we possess, we create added value in the form of high efficiency and high quality. We also independently create technologies to respond to the need for accuracy and technologies that will be needed in the automobiles of the future. We are also involved in the soft domain, including the development of semiconductors.

#### Roots of Our Strength

- **1968** Created the IC Research Center in anticipation of the shift to the electronic control of automotive parts in the future. This laboratory provided us with a structure for the production of IC technologies completely in-house.
- **1972** Gradually established overseas production companies. These companies helped us gain an understanding of the needs in each region and begin production activities that met those needs.
- **1979** Received the Okochi Memorial Production Prize. This prize was received in recognition of our highly accurate, high-quality product creation that was realized through our comprehensive in-house manufacturing of production lines and equipment.

# Hitozukuri BR40-41

#### The Key to Our Strength

**DENSO Spirit** 

Global human resource development

Cultivation of young technicians

Based on the idea that "the best products are made by the best human resources," we have cultivated personnel who can tackle the issues they face and create new technologies and products without fearing change. By instilling the DENSO Spirit, our DNA, on a Companywide basis, we continue to develop personnel who can create world-leading, cutting-edge products.

**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 are still practiced by the Company today.
- **1961** Received the Deming Prize, the most prestigious award for quality control. The efforts made by all employees to win this prize laid the foundations for the concept of "Quality First," and also helped us establish a corporate culture that fosters trust.
- **1977** Received our first gold medal in the WorldSkills Competition. Receiving this medal was the result of our skills training in which we have invested resources since our founding. Since then, DENSO has earned more than 60 WorldSkills medals.
- **2005** Established the DENSO Training Academy, our first overseas regional training center. This center helped us build a structure for educating engineers and technicians on a global basis.





**COVER STORY** Our Accumulated Capitals

# Capitals Supporting **Our Global No. 2 Position** in the Industry

DENSO has grown its revenue to ¥5.4 trillion, securing the No. 2 position in both the automotive parts industry and the world. Now, DENSO's products are installed in cars all over the globe. The capitals that we have accumulated while achieving this growth now support the scale of our business activities and provide us with the funds needed to enhance our corporate value. Going forward, we will maintain and enhance these capitals in an effort to realize sustainable growth.

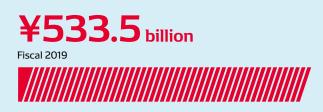


## Financial Capital DR.44-45

To realize sustainable growth and further improve corporate value, there is a need to secure continuous funding for capital expenditures and investment in R&D activities, alliances, and M&A. DENSO generates over ¥1 trillion in cash every year through its business activities (including operating cash flow plus other cash generation activities). Going forward, we will realize further business growth by using this cash to make effective investments.

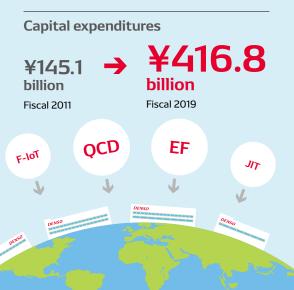
Cash generation capabilities (operating cash flow)





## Manufacturing

Amid the expansion of the soft domain and the rapid emergence of newcomers in the automotive industry, we believe that the ability to globally provide high-quality, highly reliable products that can be installed in vehicles—something in which people entrust their lives—is a crucial element in achieving differentiation. Drawing on the car manufacturing insight we have cultivated in the 70 years since our establishment, we are taking the initiative to evolve our facilities by introducing the latest technologies while refining our technological and business execution capabilities for the real world.





## Human Capital I P.48-49

DENSO operates businesses in over 30 countries and regions around the world. Accordingly, DENSO is a company that draws on the personalities and ideas of its diverse group of human resources—who are of different genders, ages, and nationalities and lead different lifestyles—in order to constantly evolve. To that end, we are promoting an active role

for all employees and striving to establish a corporate culture where each employee can continue to work in good physical and mental health.

#### Ratio of overseas employees

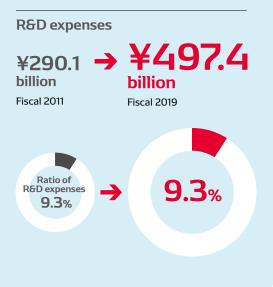






## Intellectual Capital Capital

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, R&D capabilities are becoming even more important. DENSO considers R&D expenditure at around 9% of revenue to be an appropriate level. Based on this level, we are expanding our developmental domains and accelerating the speed of our development activities. At the same time, we are improving investment efficiency through the introduction of cutting-edge technologies, such as standardization activities and evaluations via simulators, as we work to patent our developmental assets.





## Social and Relationship Capital ID R51-53

In the paradigm shift, which occurs once every 100 years, we need to respond to the needs of society with a sense of speed and further invigorate our business activities. This is a task that we cannot do on our own, and it is therefore necessary to collaborate with our various stakeholders. To that end, we are constantly holding dialogues with our stakeholders to convey to them our dreams and aspirations in an effort to find partners who share the same aspirations as we do and will work together with us to achieve mutual growth. In these ways, we strive to become a company that is truly inspiring to society.



## cover story Expansive Business Domains

# Various Businesses That Support the Mobile Society

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 automotive field, its main area of operation, to develop lifestyle and industrial-related equipment. At the moment, DENSO has six core businesses that devise solutions for the mobile society of the future. Centered on these core businesses, DENSO is making full use of the technologies it has accumulated in the automotive domain as it pursues a variety of businesses that support the mobile society of the future.





## **Six Core Businesses**

## Thermal Systems II P.60-61

Providing safe, comfortable systems that use the least amount of energy possible in consideration of the environment



### Main Products

Air-conditioning systems for cars and busesTruck refrigeration units

Radiators and cooling systems

## Powertrain Systems II P.62-63

Providing solutions that help overcome the seemingly contradictive task of balancing the joy of life with vehicles with superior environmental performance



### Main Products

- Gasoline and diesel engine management systems
- Engine-related products
- Products for drive systems

# **Electrification Systems** II P.64–65

Supporting electrification in all areas of mobility to realize an enriched environment and the joy of driving



## Main Products

- Hybrid and electric car drive systems,
- power systems
- Power supply and starting system products
- Steering and braking control system products
- Various motors and system products

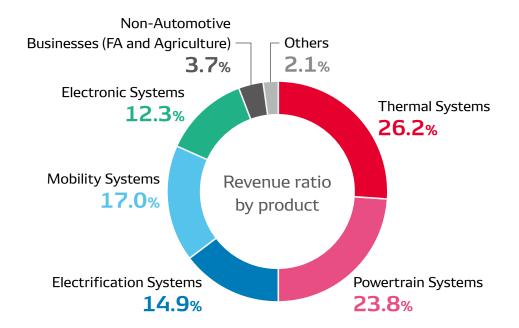
## Mobility Systems II P.66-67

Realizing a society in which all people can move comfortably and with peace of mind through a three-way harmony between people, vehicles, and society (Quality of Mobility)



Main Products

- Electronic systems, services, and platforms that support all aspects of mobility
- Advanced safety and automated driving products
- Connected cockpit products



## Electronic Systems II P.68-69

00

Driving the industry through electronic technologies to realize a mobile society with electrification and automated driving



### Main Products

- Powertrain control computers, body control computers, and other electronic devices
- Microelectronic devices such as power semiconductors
  Approaching vehicle detection devices and buzzers

## Non-Automotive Businesses (FA and Agriculture) II R70-73

Enhancing the productivity of the manufacturing industry and contributing to an improved quality of life with a commitment to our long-cultivated technologies (Factory Automation [FA])

Combining technologies and ideas to contribute to an enriched society where all people can live safely and with peace of mind (Agriculture)

Main Products

- Industrial equipment such as automated equipment, modules, industrial-use robots, and QR solutions
- Agricultural production equipment and cloud services,
- in addition to the provision of after-sale services

## Four Focus Fields

**Electrification** 

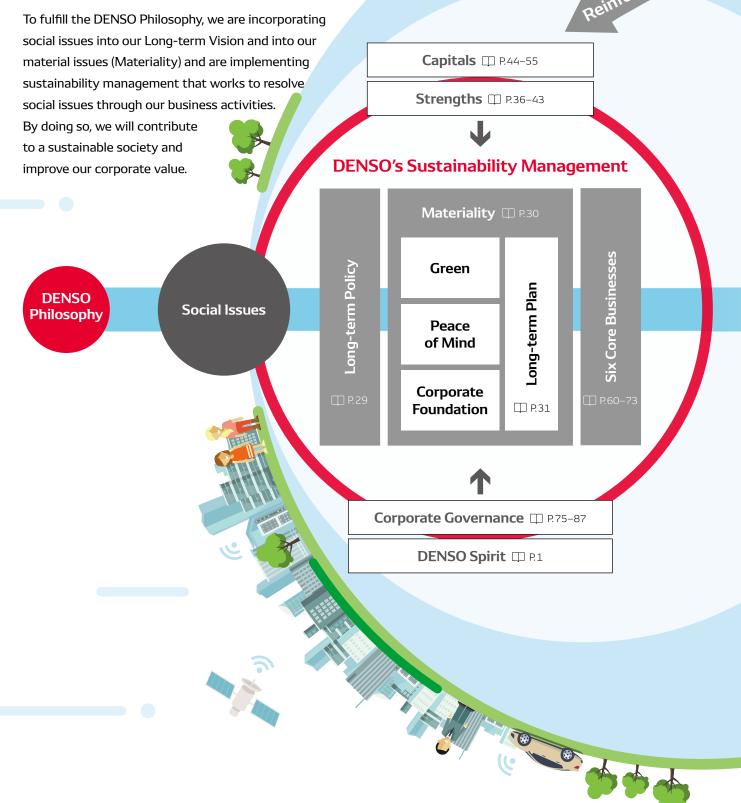
Advanced Safety and Automated Driving

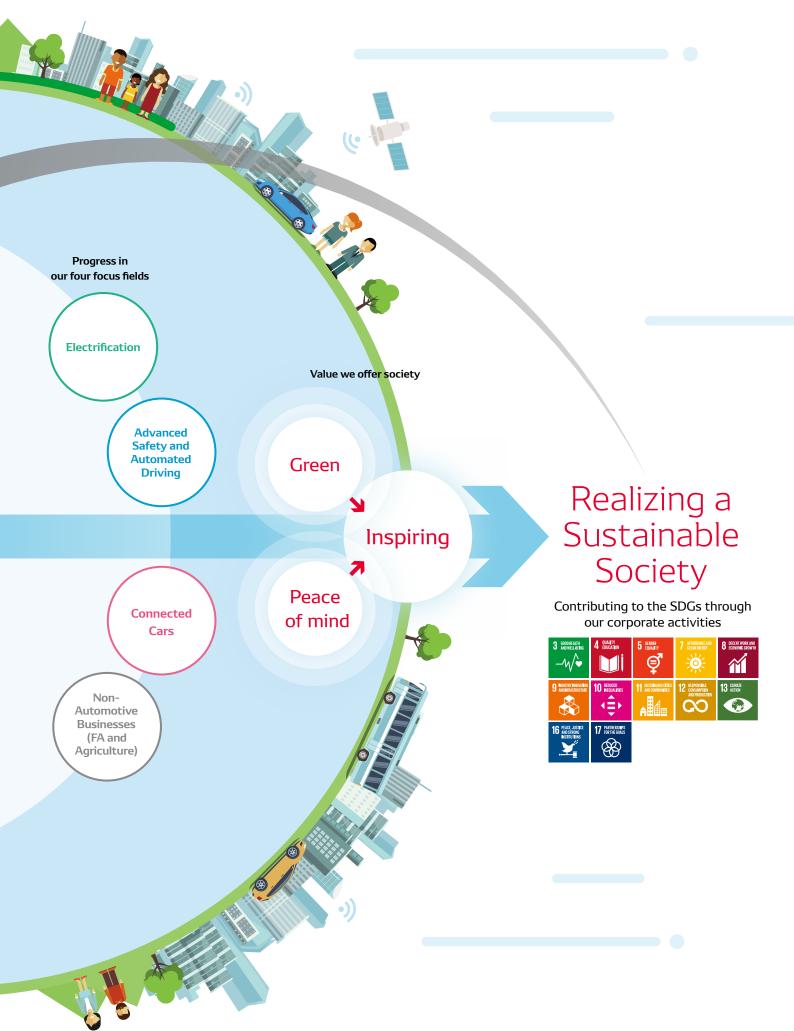
## **Connected** Cars

Non-Automotive Businesses (FA and Agriculture)

## COVER STORY DENSO'S Value Creation Process

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





#### DENSO Integrated Report 2019

#### COVER STORY

The awareness that we are all working together on behalf of society gives me the motivation to do my job.

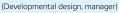
(Developmental design, general employee)



I want us to grow into a company that can co-exist with the environment so that we can achieve a 100-year history. (Developmental design, general employee)



It is imperative that we clearly indicate the direction we are heading with the development of necessary technologies.





Sustainability management is an important concept to ensure that DENSO can continue to exist in society.





# Building the Future through

It is important that all our employees understand sustainability management and reflect

it in their actions. (Developmental design, manager)

I want to be aware of sustainability not just in terms of my job but also my lifestyle. (Planning, general employee)



I want to think earnestly about how the next action I take can expand sustainability management.

(Manufacturing, general employee)

We will take on the challenge of promoting economic activities and tackling local issues while respecting the differences between industries

and cultures. It is an important

responsibility of DENSO to develop

personnel who can seriously pursue

We need to carry out sustainability management with the full participation of all employees.

(Production engineering, manager)



l will give consideration to sustainability in my day-to-day work decisions going forward. (Developmental design, manager)

In an era in which we are exposed to bewildering changes, we need to have a purpose and conviction as well as an unshakable core.

(Manufacturing, general employee)







this challenge. (Developmental design, manager)



Looking beyond the SDGs, I want to continue to develop businesses that lead to the resolution of social issues. (Planning, manager)





In collaboration with the activities of local communities around the world, I want us to help contribute to the achievement of the SDGs as a company.

(Developmental design, general employee)

I approach my daily work with the goal of creating a virtuous cycle in which contributions to the world ultimately tie into corporate profits. I also hope to pass on an interest in such activities to the next generation of DENSO employees.

(Manufacturing, general employee)

It is important to continue moving forward with a view to the future. (Planning, general employee)



It would be a risk not to give consideration to sustainability management.

(Developmental design, manager)



# Sustainability Management



earning power.

(Developmental design, manager)

It is crucial to think about how the work we do relates to society as a whole. (Sales, general employee)



With sustainability management, the choice is clear. We either choose to be a company that eventually gets eliminated by the competition or choose to become a company that brings joy to society and the world.

(Developmental design, general employee)

There is a limit to what a person can do on their own. So, I want us all to combine our strengths in order to contribute to the creation of an enriched and secure society.

(Quality control, general employee)



I want to return to the starting point, carved out as one of the tenets in the DENSO Creed: "Provide quality products and services."

We will hold more meaningful discussion on how we can tie in the resolution of

social issues with the enhancement of our

(Manufacturing, manager)



To continue to be a company that is needed by and inspires society through its business activities, all employees of DENSO are combining their strengths in the pursuit of sustainability management.





**To Our Stakeholders** 

# Overcoming the Paradigm Shift Together with Our Partners around the World

### Changes in the Environment Surrounding DENSO

The Heisei era is over and the new era of Reiwa has begun. In this milestone year, DENSO celebrates its 70th anniversary. Looking back on the Heisei era, in the first half we shifted our course for growth to focus on full-scale globalization and realized significant growth while being supported by a wide range of customers around the world, starting with Toyota Motor Corporation. In the second half of the Heisei era, we experienced a large number of disasters, including an unprecedented economic crisis and natural disasters that could be considered nationwide emergencies. Through this experience, we learned the importance of having a lean corporate structure and ensuring mobility within that structure. Entering into the Reiwa era, we are approaching a paradigm shift in which new technologies will be created at a tremendous speed due to the further progression of digitization, thereby changing the nature of business itself. In order for the DENSO Group to make a leap forward under such an environment, not only must we remain self-sufficient, we must also dramatically change our conventional approach, establishing partners on a global basis and bringing together insight and wisdom from around the world.

#### **Results of Establishing Partners**

Guided by such an approach, we have moved forward with a large number of external partnerships, the likes of which we have not pursued before. These include actively promoting alliances and collaborations with companies in different industries. At the moment, we are striving to build a global network with start-up competitive companies, centered on Silicon Valley, that possess business models and technologies that we do not have, including connected, AI, and security technologies. We are working to create businesses together with these companies while combining our mutual strengths. In addition, we have established laboratories around the world that conduct cuttingedge R&D, thus accelerating R&D activities that draw on local characteristics. In these ways, we are taking on the challenge of establishing partners globally and bringing together insight and wisdom from around the world. In fiscal 2019, we carried out over 20 investments. In fiscal 2020, we will continue to actively promote investment while keeping in mind the level of necessity so that we can study technologies and business models that DENSO does not possess. At the same time, we will make concerted efforts to accelerate our management decisionmaking.

Also, fiscal 2019 was a year in which we transformed the nature of our collaboration within the Toyota Group as well. In terms of electronic components, we announced that the production of electronic components at Toyota's Hirose Plant will be consolidated within DENSO in April 2020. For electrification, we launched a joint venture in April 2019 together with the Aisin Group. Through a lineup of driving modules for hybrids, plug-in hybrids, and electric vehicles, this new company will help us promote the widespread adoption of electrification. Turning to the field of automated driving, we established a joint venture, also in April 2019, that brings together the automobile functions of running, turning, and stopping, with four Toyota Group companies. With the aim of eliminating fatal car accidents, this new company will provide integrated software for automated driving.

Thus far, we have refined our technologies while engaging in friendly competition with other companies within the Toyota Group. Going forward, it is imperative that we establish a structure that allows us to pursue such competition not just internally but externally as well. Collaboration within the Group has two purposes: enhancing our competitiveness and creating new value. These are achieved by bringing together the comprehensive strengths of each Group company. Through the creation of new value and the enhancement of our competitiveness as we strive to ensure that an even greater number of customers (car manufacturers) outside of the Toyota Group use our products, I believe we will be able to promote the widespread adoption of products and services that truly make the world better. We find ourselves in the midst of a paradigm shift that will change the value that automobiles offer. For that very reason, we need to realize and dramatically popularize products and services that are useful in the real world. I therefore believe that the kind of collaboration we are pursuing is extremely important. Going forward, we will contribute to society by steadily promoting these collaborative activities and achieving solid results.

#### **Promotion of Sustainability Management**

To overcome these challenging circumstances in which the business environment is rapidly changing and to realize sustainable growth as a company needed by society, I truly believe in the importance of returning to our founding spirit and promoting our daily business activities while encouraging all 170,000 DENSO Group employees around the world to consider how they can contribute to society through their work. Accordingly, since our inception, we have been resolving social issues by providing eco-friendliness and safety in the automobile domain. To make this long-adopted approach clearer, we have been promoting sustainability management since 2018.

At DENSO, sustainability management means that we contribute to the resolution of social issues through our businesses while securing a profit. To that extent, we have established material issues (Materiality) that include 16 themes in the areas of green, peace of mind, and corporate foundation. For example, we are promoting a broad range of initiatives to achieve the targets we have set for the issues of preventing global warming and reducing traffic accidents.

Our approach to sustainability management shares the same intention as the DENSO Creed, and this approach represents the core of our management that we have inherited since our founding and provides us with the driving force for growth. Accordingly, I believe that sustainability management has always been a part of DENSO's DNA. Having our employees consider how they can contribute to the resolution of social issues through their day-to-day work and act accordingly is, in itself, the implementation of sustainability management—and I believe that these kinds of employees will become an engine driving change in society. With this in mind, we are promoting various initiatives to ensure that all employees can talk about sustainability management in their own words and carry out such management in their actions. By doing so, I will undertake efforts toward sustainability management leveraging the comprehensive strengths of all 170,000 DENSO Group employees.

### Foundation Underpinning Business Growth through Reform—Diversification of the Board of Directors

"Accelerating the speed of our business execution" and "invigorating the workplace" are two crucial efforts in order to forge our own path in this period of extreme change and provide new value to the mobile society. We have therefore engaged in such efforts as reducing the number of directors, delegating business execution authority, and reforming our organization. Recently, with the aim of further accelerating the speed of our management decisionmaking, we revised our executive management structure and reshuffled the lineup of our management team. Specifically, the executive management team now comprises the chairman, the president & CEO, executive vice presidents, members of the Board of Directors, senior executive officers, and Audit & Supervisory Board members, and the members of this team have been reduced from 55 to 28. In addition, we changed the title of senior executive director to "senior executive officer" as well as expanded the role so that these executives can better manage their respective sections and address the business issues faced by DENSO. In these ways, we have accelerated the speed of management decision-making and business execution. Furthermore, to enable the examination of management issues from a diversified perspective, we implemented reforms to our governance, including increasing the number of outside directors and appointing a female director, so that we can achieve a well-balanced Board that possesses diversity in terms of expertise, nationality, and gender. As we move forward, we will dramatically enhance the speed and effectiveness of our management decision-making and undertake Groupwide efforts to overcome this period of extreme change.

### Area of Focus in Fiscal 2020-Improving Earning Power

The global economy continues to decelerate and the alobal sales volume of automobiles is declining each year. Earning power is therefore essential in order to achieve sustainable growth under these circumstances. In addition, without sufficient earning power, we will be unable to contribute to our customers and society as a whole. As we drafted our business plans for fiscal 2020, we considered the themes of "striking a balance between earning power and investment," "eliminating unprofitable businesses/improving the profitability of low-profit businesses," "thoroughly reducing manufacturing costs (enhancing productivity)," and "making tangible and personnel-related preparations for achieving ¥7.0 trillion in revenue by fiscal 2026." Based on these themes, we held multiple discussions on how we should improve our earning power on a Groupwide basis.

Additionally, I believe that improving earning power is the key to supporting DENSO's growth from the perspective of capital for technological development as well. We are a company that has realized growth by leveraging technological development to maximize the value we offer to all our customers-not just automobile manufacturers but also mobility service providers and ultimately end-users. Companies that do not have the capability to develop technologies will not survive in the era ahead. Supported by both our earning power and technological development, we must step on the gas pedal and significantly accelerate the pace of our operations. I truly believe that fiscal 2020 will be a year in which we are put to the ultimate test.

### An Approach to Reform That is Uniquely DENSO

As we continue to promote reforms, it is necessary for us to look back to our origins to reconsider what makes DENSO a truly unique company. Those origins lie in the DENSO Creed, which concludes with the commitment to "Provide quality products and services." I believe what makes DENSO unique is our corporate culture, which shows respect for all people, values earnest initiatives, and remains committed to making improvements.

No matter how far digitization progresses, it is our people who make close connections with customers and society, who create new techniques, and who refine our *Monozukuri* capabilities. Therefore, I aim to turn DENSO into a dynamic and vibrant company in which the 170,000 members of the DENSO Group mutually respect and believe in each other and take on challenges with a commitment to realizing results that have never been achieved before.

To deliver a better future to the next generation through our products and services, we will work with passion and excitement to realize an enriched mobile society and contribute to the sustainable growth of that society. I would like to ask for your continued support as we pursue these endeavors going forward.

September 2019

hoji Aima Koji Arima

President & CEO

# GROWTH STRATEGY

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## Awareness of Business Environment

Amid global population increases, aging societies, and advancing urbanization, the progression of global warming due to CO<sub>2</sub> emissions and the increase in traffic accidents are becoming serious social issues. In addition, business models are changing and people's value systems and consumption behavior are diversifying due to the rapid digitization of society and advancements in robotics. Furthermore, in the field of mobility, the evolution of IoT and AI and the entry of companies from other industries have accelerated trends toward electrification, automated driving, connected cars, and car sharing. Forecasting a society in which these trends continue, we are analyzing events that are likely to occur in the automotive society by 2030. Based on this analysis, we have identified the risks, opportunities, and major issues, which are listed in the chart on the right.

#### Forecasts of Future Society

#### Politics

Trade conflict between the United States and China		1
Diversification of energy sources by region, expanding demand for natural gas in the Middle East and China		1
Tightening supply and demand of energy due to increased demand from emerging countries		2
Necessity of renewable energy and hydrogen storage     in realizing a low-carbon society		2
Acceleration of international cooperation to respond to climate change     in light of the urgent need to address global warming		2
<ul> <li>Business opportunities presented by the shift to a low-carbon society but also risks to existing businesses due to this shift</li> </ul>		2
Corporate strategies with an awareness of social and environmental burden throughout the entire supply chain	2	3
Economy		
Rise of emerging countries and global multi-polarization 1	1	4
Deepening and expansion of economic collaboration, shift to borderless capital transactions	3	4
Obstructions to the borderless trend due to increasing disparity gaps and the rise of protectionism	3	4
Society		
Threat to the sustainability of society due to the rapid increase in population, with the global population exceeding 8 billion	2	3
<ul> <li>Aging populations around the world, declining workforce, acceleration of growth in life expectancies</li> </ul>		4
Urbanization in emerging countries, acceleration of urban regeneration     due to the shift to smart and compact devices		4
Consumption behavior becoming more ethical and experience-based with the shift to the sharing economy	2	3
Progression in the transition to labor offered by Al and robotics, changes in work ethic and available free time		2
<b>T</b> echnology		
Integration of digital and physical domains due to the progression of IoT and wearable devices		3
Productivity enhancement and value chain integration through     the use of big data		3

<ul> <li>Transition to the phase of AI utilization</li> </ul>	on and the versatile
implementation of AI in manufacturin	g, finance, and services

#### Awareness of Climate Change

Concern over climate change is rising around the world in light of rising temperatures, the increase in natural disasters, and other weather-related phenomena. The automotive industry has a particularly high impact on the environment, and it is essential to strengthen efforts to reduce  $CO_2$  emissions if we wish to realize a sustainable society. In light of these circumstances, we formulated DENSO Eco Vision 2025. Under this latest Eco Vision, we are promoting efforts to reduce  $CO_2$  emissions not just from the products we develop but also within our entire corporate activities in all regions where we operate. Additionally, we recognize that exhaust gas regulations, which continue to tighten, present us with both a risk and an opportunity for growth going forward.

#### Keywords for Social Changes by 2030

1

# Shift of power to emerging countries

Market diversificatior

## 2

### Shift toward a recycling-oriented, low-carbon society Changes in the powertrain mix (electric vehicles, internal combustic engine vehicles)

3

Diversification of people's values and consumption behavior Diversifying consumption behavior and value systems Evolution of IT communications × Automobiles

4

# Emergence of social issues

Aging population, depopulation, overcrowding, and congestion

.... 3

#### **Risks and Opportunities**

Growth in the automotive market will shift toward emerging countries such as China and India. This shift presents us with an opportunity to incorporate new growth. However, as the environment and value systems differ by country, we need to avoid simply applying our standard business practices in emerging countries. Rather, we need to gain the ability to make proposals that meet the specific needs of each region.

In light of the risks from climate change, we believe that we will have a greater opportunity to promote our long-cultivated technologies for improving fuel efficiency and reducing exhaust gas, as well as our electrification technologies, around the globe. Through a combination of both collaboration and competition with other companies, we need to further accelerate the development of technologies that reduce CO<sub>2</sub> emissions and work to ensure their stable supply on a global basis.

Progress with IT and communication technologies and the evolution of automobiles are overlapping to a much greater degree. Through this overlap, we are now able to address a wide variety of global needs, such as remote support during times of emergency, ride sharing, and electricpowered driving. As the number of new domains increases, so does the number of domains in which we face competition from competitors and companies from other industries. At the same time, the number of domains in which we can leverage our expertise to pursue collaboration is also increasing.

While the use of consumer electronics, automobiles, and other goods has become more widespread, social issues such as aging populations, depopulation, overcrowding, and traffic congestion have become more serious. To address these issues, there is a growing need for technological development and business models that contribute to safer, more comfortable lifestyles.

# Developing Areas in the Automotive Society



#### Major Issues for DENSO

### Maximizing the Value of "Green" and "Peace of Mind" and Creating Inspiration

The developing areas in the automotive society 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 mobile 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 continue to create new value that inspires society.

Long-term Policy: 🛄 P.29

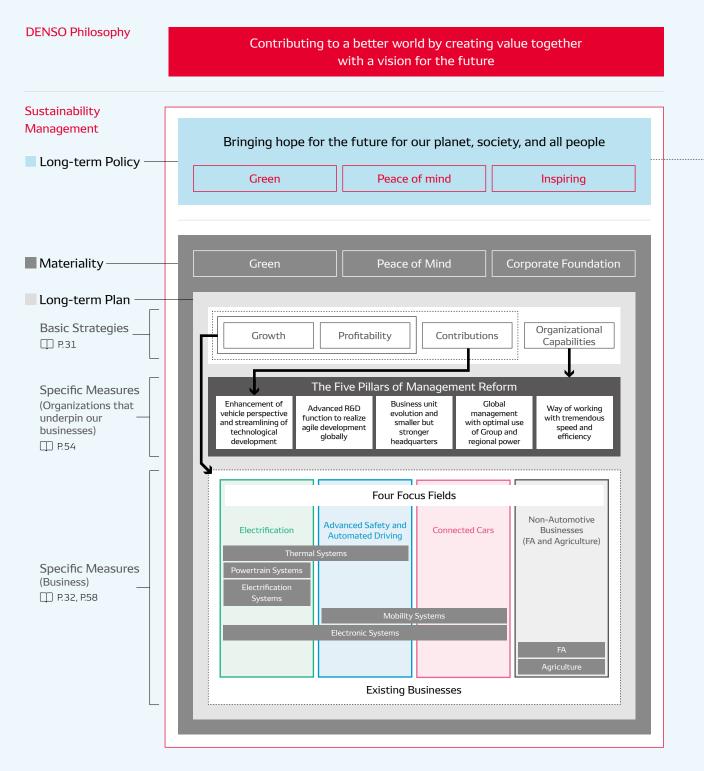


Traditionally, the automotive industry has focused on the hard domain, which comprises the basic vehicle functions of running, turning, and stopping. However, based on the kind of social changes described on the left, there has been a growing need for added value provided through the soft domain, which leverages IT technologies, as well as domains that combine the hard and soft domains. By leveraging the hard domain, where we have existing strengths, and enhancing our competitiveness in the soft domain, we will capitalize on the growth opportunities mentioned on the left.

Reinforcing Our Strengths: 🛄 P.36–43

# Outline of Management Policies

The DENSO Philosophy provides the base for drawing the outline of the Company's management policies, and sustainability management acts as the core for implementing these policies. In light of the aforementioned changes in the business environment, DENSO has formulated its Long-term Policy, which focuses on 2030. The Company also established material issues (Materiality) and the Long-term Plan as a path for realizing the Long-term Policy. Through these efforts, DENSO is implementing sustainability management. By striving to achieve growth in new mobility fields in accordance with the realization of electrification, automated driving, and other technologies, along with promoting reforms to its management, the Company has adopted growth targets for fiscal 2026 of reaching ¥7.0 trillion in revenue and an operating margin of 10%. Please see the relevant pages for details on DENSO's Long-term Policy, Materiality, and business strategies.



# Long-term Policy

DENSO has formulated the Long-term Policy, 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 conventional areas of focus, we have adopted the new theme of "inspiring." Guided by these three themes, we will strive to gain the understanding of our diverse stakeholders regarding the various efforts we pursue. By combining the strengths we possess under each theme, we will generate new value for society.

### Slogan

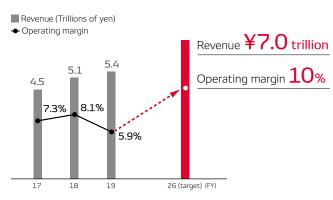
## Bringing hope for the future for our planet, society, and all people

## 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 Peace and reducing environmental impact Green of mind 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 Inspiring Contribute to happiness for everyone through inspiring value-added offerings

#### Numerical Targets (FY2026)



### Social Issues We Aim to Address



# Materiality

To enhance the transparency of our sustainability management and accelerate relevant initiatives, we have determined material issues (Materiality) and are making efforts to resolve these issues. Among the various social issues that are present today, including those highlighted in the SDGs, we determined that the three themes of "green," "peace of mind," and "corporate foundation" represent 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. We have established a specific vision and KPIs (numerical indicators, or guides) related to each material issue we have identified. By working to achieve these KPIs through our business activities, we will strive to resolve social issues going forward.

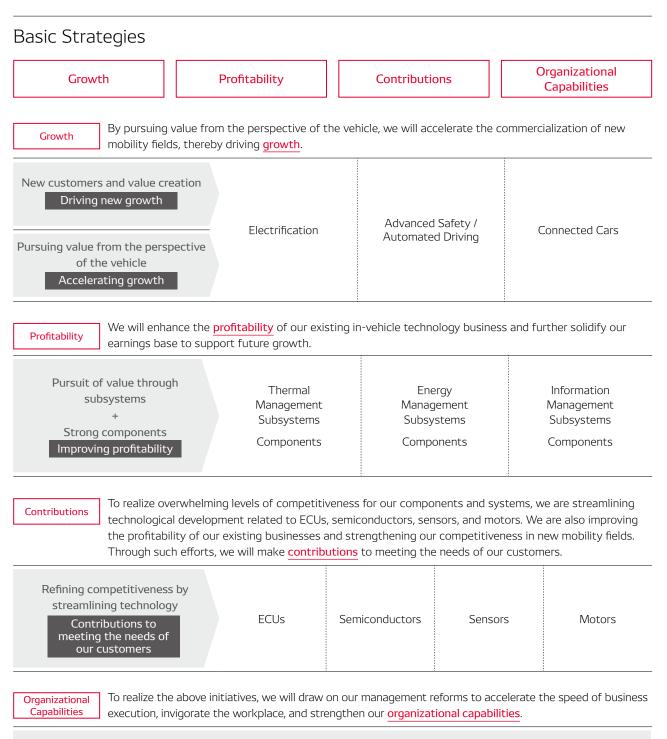
	Materiality	Vision	Related SDGs
Green	<ul> <li>Prevention of global warming </li> <li>Prevention of air pollution/ Reduction of environmental burden </li> <li>Effective utilization of resources </li> </ul>	<ul> <li>Contribute to an eco-friendly and sustainable society by reducing environmental burden and realizing highly efficient mobility</li> <li>Provide technologies to prevent global warming and solve issues related to energy and resources, thereby contributing to the sustainability of the global environment</li> </ul>	3 GUDIELATI → ↓ ↓ 1 definition 11 standaucters → ↓ ↓ 1 standaucters ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
	Conservation of water resources	<ul> <li>Continue to be a company that grows together with society by pursuing continuous improvements in society as well as complying with laws and regulations</li> <li>Contribute to a society that shares the wisdom and blessings of nature through corporate activities that</li> </ul>	
	We have formulated the Eco	aim for a peaceful coexistence with nature Vision to serve as a long-term environmental policy to	help us promote our environmental
	management.		
		ion of our corporate website for more information on the Eco Vision. /csr/environment-report/ecovision/	
Peace of Mind	<ul> <li>Reduction of traffic accidents </li> <li>Provision of flexible and</li> </ul>	<ul> <li>Provide safe and secure products that are of high quality to gain the trust and satisfaction of our customers</li> </ul>	3 GODIEZALII 
Peace	<ul> <li>comfortable movement </li> <li>Provision of safe and secure products </li> <li>Response to decrease in birthrate and aging population </li> </ul>	<ul> <li>Contribute to a society where people can have peace of mind by eliminating traffic accidents and providing flexible and comfortable movement for all</li> </ul>	12 RESPONSE ADDRESSES
Idation	<ul> <li>Compliance</li> <li>Information security ()</li> </ul>	• Ensure that each employee acts in a fair, honest, and ethical manner while complying with laws and regulations in each country and region	3 accompany terms 10 records → M → 10 records → ↓ ↓ 11 reconstance → ↓ ↓ ↓ 11 reconstance → ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
Corporate Foundation		<ul> <li>Provide safe and reliable products to customers, protect information assets, and prepare for cyber security risks that the "connected society" faces</li> </ul>	17 PRINKSUP TO THE GOAS
Cor	<ul> <li>Diversity and inclusion</li> <li>Healthy and safe working environment</li> <li>Workstyle reform</li> </ul>	<ul> <li>Promote the development of "people," "organiza- tions," and "the working environment" to encourage our employees to maximize their abilities and work with enthusiasm and peace of mind</li> </ul>	3 GODIERALIU ANDIELENSE     4 GULUTI EDUCATION     5 GENER EDUCATION     8 RECENTING EDUCATION       -///w     Image: State of the state o
	<ul> <li>Protection of human rights</li> <li>Sustainable procurement</li> <li>Corporate governance</li> </ul>	<ul> <li>Respect the human rights of all our stakeholders, including our employees and people throughout our supply chain, in our business activities</li> </ul>	
		<ul> <li>Pursue business activities that take into account environmental issues, human rights issues, and compliance together with our suppliers</li> </ul>	

O Targets that can be achieved using products and services

SDGs for which products and services can contribute to their accomplishment  $\rightarrow$  3, 7, 9, 11, 12, and 13

# Long-term Plan

DENSO has established its Long-term Plan for fiscal 2026, which acts as a pathway for realizing its Long-term Policy. Centered on the Basic Strategies shown below, DENSO has established four focus fields based on social changes. In addition to these fields, DENSO has adopted the Five Pillars of Management Reform ( P.54) to enhance organizational capabilities and reflect its ambition to transition to an organization that can compete even under a challenging business environment. By promoting these reforms, DENSO will realize its growth targets of revenue totaling ¥7.0 trillion and an operating margin of 10%.



Accelerating our business execution and invigorating the workplace as we transition to an organization that can compete in an era of rapid changes

## Four Focus Fields

To realize the growth targets adopted in our Long-term Plan, we are focusing on the fields of electrification, advanced safety and automated driving, and connected cars. In addition, we are working to provide new mobility value and establish factory automation and new technology for agriculture as our non-automotive businesses. In these ways, we are contributing to the improvement of industrial and social productivity.

## Electrification

### Provided Value Reducing Environmental Burden and Realizing Highly Efficient Mobility

DENSO has been engaged in the development of electric vehicle systems that are ecofriendly and enable even more comfortable travel. As a result, DENSO has realized highfunctioning, compact, and fuel-efficient products that are essential for hybrid vehicles and is producing these products around the world. 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.

### Advanced Safety and Automated Driving

#### Provided Value Realizing a Safe Society without Accidents, and Free and Comfortable Mobility

DENSO aims to create a mobile society without accidents and in which all people can move safely and with peace of mind. Guided by this aim, DENSO has developed reliable, high-quality safety technologies. By enhancing our long-cultivated sensing technologies as well as our Al and information technologies, we will further contribute to the development of automated driving. Maintaining our firm commitment to quality, which we have adopted since our founding, we will deliver genuine peace of mind for the future of the mobile society.





### **Connected Cars**

### Provided Value Realizing a New Mobile Society That Connects Vehicles, People, and Goods

Amid the major transition from the trend of owning a vehicle to the trend of using a vehicle as a service, DENSO is pursuing efforts in the Mobility-as-a-Service (MaaS) business, which involves providing mobility services that move people and goods. Going forward, we aim to provide safe, secure, and efficient transportation methods with low environmental burden for people with vehicles and for those without, thereby contributing to the realization of a new mobile society.

# Non-Automotive Businesses (FA and Agriculture) Provided Value Contributing to Improved Social and Industrial Productivity

DENSO has a solid track record of introducing factory automation (FA) systems in 130 factories. Leveraging this record, we will propose and provide FA systems that can meet the diverse needs of our customers, thereby making extensive contributions to the development of the manufacturing industry. Also, with the aim of delivering happiness to all people through agriculture, we will draw on the expertise and know-how we have cultivated in the automotive field to offer new value in agricultural fields.





# Mid-term Plan

Under its Long-term Plan, DENSO has adopted growth targets for fiscal 2026 of reaching revenue of ¥7.0 trillion and an operating margin of 10%. As a checkpoint within that process, we have set a target for fiscal 2022 of achieving revenue of ¥5.6 trillion and an operating margin of over 8%. To steadily accomplish these targets, we have formulated specific action plans from the following perspectives: "taking on the challenge of creating new value," "strengthening profitability to support future growth," and "reforming our management foundation."

In fiscal 2019, our first year under DENSO Group Mid-term Policy 2021, we made efforts toward the three policy guidelines: Creating New Kinds of Value, Strengthening Profitability in Support of Future Growth, and Transforming Our Business Foundation. Currently, the social environment is changing at a pace that is exceeding our expectations, including the heightened interest toward the SDGs. In addition, there is a need for us to propose ideas for new value and steadily improve our profitability. In fiscal 2020, we will make Groupwide efforts to enhance our capacity for generating earnings and accelerating the speed of our business execution. To that end, we made a partial revision to our mid-term policy to clarify the role that each employee should play so that all our employees can boldly pursue these goals.

## 1 / Creating New Kinds of Value

- (1) Broaden our range of collaborations in integrated vehicle platforms that straddle product sectors to help assert leadership in electrification and in automated driving
- (2) Create and deploy business models for generating new value in mobility services and dramatically improving convenience
- (3) Position factory automation and agriculture as pillars of new business development and employ bold concepts to assert a strong presence in those sectors
- (4) Connect with brilliant minds at the centers of innovation worldwide to increase our agility in nurturing a continuing stream of new products
- (5) Build on the wisdom that resides in the Toyota Group to overcome the unprecedented change that is transforming the automobile industry and generate benefits for customers and society worldwide

## 2 / Strengthening Profitability in Support of Future Growth

- (1) Upgrade our interregional interaction and increase our management agility by reworking our organization to realize a smaller but stronger headquarters and performance-oriented business units and subsidiaries
- (2) Advance the performance of key products, such as motors, ECUs, semiconductor devices, and sensors, with leading-edge technology, and reinforce the basis of our competitiveness through a commitment to asserting key product standards
- (3) Anticipate customer expectations in both growing and changing markets and address those needs through new projects undertaken with optimal partners
- (4) In our core product sectors, generate unprecedented workplace performance by pressing ahead with measures for achieving further advances in *DANTOTSU* ("best by far") plants and for evolving our plants through the Factory-Internet of Things (F-IoT)
- (5) Accelerate product development and achieve high profitability by working independently and with partners to revolutionize development processes

### / Transforming Our Business Foundation

- (1) Exercise our shared awareness of working fundamentals, accumulated over the 70 years since DENSO's establishment, to address social expectations and earn customers' trust
- (2) Honor the spirit of the DENSO Creed in laying a foundation of uncompromising safety and quality that will support peace of mind for customers in traditional sectors and in new sectors, such as intelligent and information-based functions
- (3) Tap the full potential of each team member and maximize our workplace vitality and our responsiveness to challenges and opportunities by nurturing a motivational workplace and by making the most of advanced information technology
- (4) Improve our responsiveness to fluctuations in demand by accelerating our Excellent Factory (EF) activities, and shape a lean production system throughout our supply chain
- (5) Do our part to address expectations in the international community for meeting the SDGs, and undertake sustainability management with an eye to generating both economic value and social value

#### Points of Emphasis in Our Mid-term Plan in Fiscal 2020

In fiscal 2020, the second year of DENSO Group Mid-term Policy 2021, we will accelerate the speed of our business activities, placing emphasis on enhancing our earning power and establishing a solid foundation for safety and quality. The points of emphasis incorporated within the three newly revised policy guidelines are as follows.

#### 1 / Creating New Kinds of Value

3

- Work to form relationships with a wide range of partners
- Leverage the wisdom of the Toyota Group

#### 2 / Strengthening Profitability in Support of Future Growth

Upgrade our interregional interaction
Promote business development in both growing and changing markets

# 3 / Transforming Our Business / Foundation

- Thoroughly enforce working fundamentals
- Conduct sustainability management



# REINFORCING THE STRENGTHS AND FOUNDATION THAT SUPPORT GROWTH

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The front lines of *Monozukuri* are one of DENSO's strengths. The Zenmyo Plant serves as a model plant for F-IoT. At this plant, we are working to connect workers with the plant itself as we strive to evolve our daily *Monozukuri* activities.













#### DENSO Integrated Report 2019 Reinforcing the Strengths and Foundation That Support Growth

## Reinforcing Our Strengths

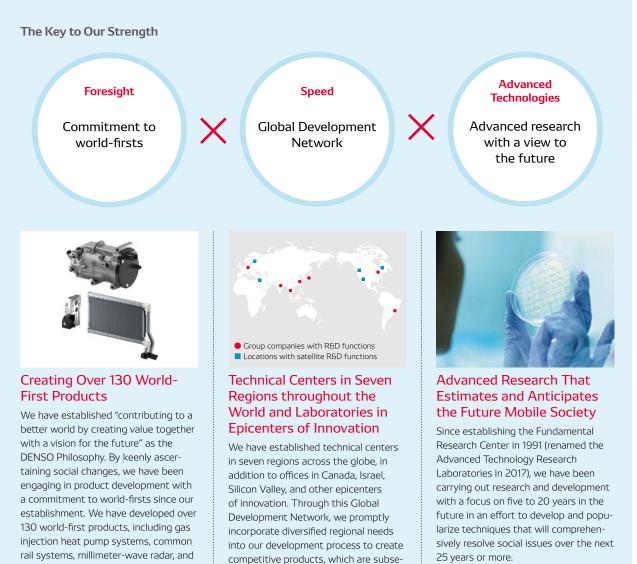
### Strength **Research and Development**

1

ejectors, which have provided us with a

driving force for growth.

By accurately ascertaining social needs, DENSO has created competitive products with a commitment to world-firsts. 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 automobiles, and contribute to the future automotive society, we operate technical centers and laboratories around the world. By combining the knowledge of DENSO on a global scale, we will work to create the future mobile society.



We perform advanced technology research in a wide range of fields, from power semiconductors such as silicon carbide (SiC) to key AI technologies for automated driving, which has led to commercialization over the near term.

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quently delivered to our customers.

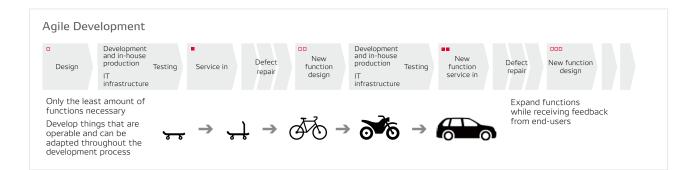
### **R&D**: Further Reinforcing Our Strengths

### Introducing the Advanced Development Technique, Agile Development

In agile development, it is assumed that design and specification changes will occur from the early stages of development. Instead of strictly determining requirements from the beginning, agile development starts by breaking development work into small increments based on a flexible set of requirements and gradually moving forward with development by repeating a process that involves frequent installation and test execution. For example, mobility services, which involve providing means of transportation to people as a service, represent a new domain for both DENSO and its customers, which are automobile manufacturers. The needs of end-users change rapidly and are becoming more diverse, meaning we can no longer adopt a conventional approach to development in which requirements are rigorously determined before actual development begins. Rather than waiting until requirements are determined to commence the development process, we will adopt an agile development approach in which we join together with automobile manufacturers to expand functions while constantly receiving feedback from end-users.

To incorporate this development approach and bolster our competitiveness in the soft domain, we established the Digital Innovation Department (now the MaaS R&D Division) in April 2017. This division aims to establish a Companywide ICT\* foundation and promote agile development geared toward fields that require large-scale systems, including connected vehicles and automated driving. Through the MaaS R&D Division, we will push forward with agile development, deploying it on a global scale.

\* ICT: Information communication technologies such as IoT, cloud servers, AI, and big data



### TOPIC Agile Development That Underpins Rapidly Growing Mobility Services



Takeshi Narisako Director of the MaaS R&D Division

The MaaS R&D Division, originally established in April 2017 under a different name, uses the agile development approach to create various mobility services. It is positioned as a neutral Tier-1 organization that leverages the extensive insight and know-how we have cultivated in domains related to automobiles and mobility services as well as our partnerships we have had with various car manufacturers over many years. The MaaS R&D Division has already carried out over 10 projects and has grown in size to now include 100 members.

Under an agile development approach, strict design specifications are intentionally undefined at the initial stages. The necessary features are completed after repeatedly ascertaining the need for individual functions, planning their installation design, and performing tests. Feedback from end-users is verified on a weekly basis, with the development theme determined the week following based on this feedback. In such a manner, agile development brings flexibility into the development process while also enhancing overall development speed. In addition, through close communication with end-users and various stakeholders, agile development has enabled us to realize the in-house production of the software needed by our customers.

As an initiative going forward, we will place particular emphasis on expanding domains in which agile development is applicable and deploying this development approach on a global basis. First, in addition to the service domain, where we are already implementing agile development, we will examine the application of this approach in the *Monozukuri* domain, specifically in terms of making vehicle interiors more comfortable and improving HMIs.\* Also, we intend to establish an agile development team in Southeast Asia to supplement the teams we have already deployed in Shanghai, Helsinki, Munich, and Seattle. Without being overly focused on a "from Japan to overseas" approach, we will accelerate the creation of services with globally shared specifications from the initial stages of development.

\* Human-machine interfaces

# 2 Monozukuri

Since its inception, DENSO's *Monozukuri* 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. 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, and we have built a *DANTOTSU*\* plant that performs *Monozukuri* at a *DANTOTSU* price. This has enabled us to also ensure high efficiency and high quality and offer competitiveness and added value to our products.

\* DANTOTSU: A DANTOTSU plant is one that undertakes Monozukuri at a DANTOTSU (outstanding) price. A DANTOTSU plant is at such a high level that it cannot be compared to other plants.

### The Key to Our Strength

Technological Capabilities World-leading production engineering Analytical Capabilities

Factory-IoT that brings out the knowledge of people to the greatest extent possible

### Front-Line Capabilities

Excellent factory (EF) activities that realize growth for both plants and people



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

DENSO leverages world-class microprocessing, paying attention to detail down to the 1/1000mm, 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 from a *Monozukuri* perspective by designing and manufacturing its own equipment and production lines.



### 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 by 30% on a Groupwide basis.



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

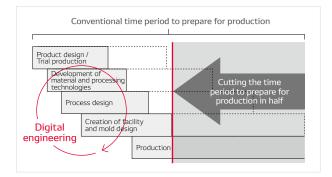
Our plant general managers lead the way with EF activities in which all plant workers participate. By focusing on making improvements to areas that are easily overlooked and establishing production lines that create high-quality products, EF activities make it easy to identify issues within our plants. 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 the top level of competitiveness in each area of operation. Monozukuri : Further Reinforcing Our Strengths

### Evolving Monozukuri through DENSO-style Factory-IoT

Based on the idea that *Monozukuri* (the art of making things) leads to *Hitozukuri* (human resource development), we have continuously made efforts toward 1 concurrent engineering and 2 steady improvement on the front lines of *Monozukuri*. To accelerate this approach, we commenced our Factory-IoT (F-IoT) activities in 2015.

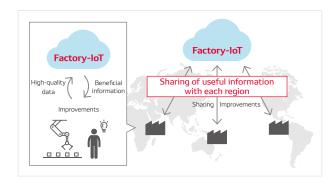
### 1 Concurrent Engineering

Through concurrent engineering, we fully utilize our digital technologies throughout the entire *Monozukuri* process, from product design and trial production, development of material and processing technologies, process design to creation of facility and mold design, and finally production. We also integrate and link design and manufacturing information and share *Monozukuri*-related know-how, in addition to conducting simulations using virtual reality. In these ways, our concurrent engineering halves the amount of time to prepare for production and aims to further develop human resources with techniques and skills that make them truly well-versed in *Monozukuri*.



### 2 Steady Improvement on the Front Lines of *Monozukuri*

By turning the high-quality data gained from our robust front-line operations into useful information, and promptly communicating such information to personnel to promote improvements, we not only increase productivity but also pursue reforms in our workstyle on the front lines and cultivate human resources dedicated to making improvements. Additionally, in a manner that seems as if all DENSO employees around the world are working under one roof, we take steps to share improvement ideas and processes and ensure that employees help each other out even if there are great distances between them. We also encourage our employees to engage in mutual competition with a strong sense of pride and a competitive spirit. In these ways, we aim to create plants that continue to evolve.



### **TOPIC** Evolution of *Kaizen* Activities Using IoT—Taking on Challenges at the Zenmyo Plant



Koji Yamabe Manager of Diesel Injection Manufacturing Division Zenmyo Plant

We have been introducing IoT at the Zenmyo Plant (Aichi Prefecture) since fiscal 2018 to serve as a model for all DENSO plants. IoT has enabled us to acquire and gain an understanding of the constantly changing information from the production floor in a timely manner, including data from equipment and from observations by skilled technicians. Through this information, we are striving to realize production lines that remain in operation and eliminate product defects.

The biggest success we have had through the utilization of IoT has been the improvements in productivity. For example, we can promptly respond to any issues as we are notified of abnormalities via a smart device. In addition, we have promoted efforts to prevent equipment malfunctions through the use of sensors that monitor equipment conditions. Through these efforts, we have boosted overall equipment efficiency\* to 90%, as compared with 84% in fiscal 2018. Furthermore, in terms of workstyles, we have reduced the amount of routine work processes by digitizing paper reports, allowing us to shift our focus to *Kaizen* activities and other work aimed at realizing higher levels of added value. As a result, we enhanced our *Kaizen* activities from qualitative and quantitative perspectives, thereby expanding the scope of our operations.

Going forward, we plan to complete the introduction of IoT on major production lines in Japan

and overseas by 2020. We will swiftly share the extensive know-how we possess around the world in an effort to dramatically enhance productivity. At the same time, we will collaborate with our customers and end-users and leverage concurrent engineering. Through these efforts, we will pursue the realization of new value.

 Overall equipment efficiency: Standard cycle time × Number of quality products ÷ Burden time

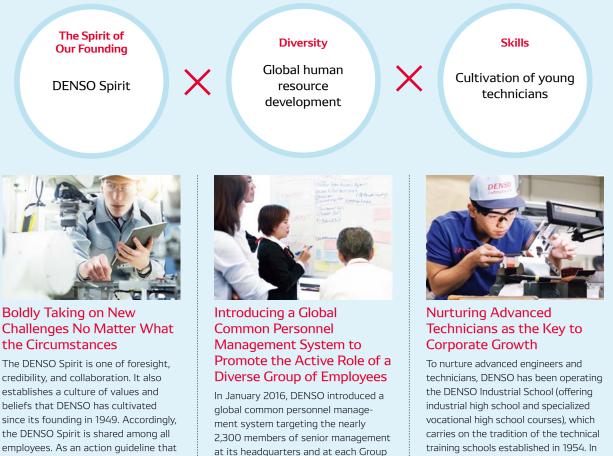


3 Hitozukuri

"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*. We are also promoting a broad range of initiatives on a global scale 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.

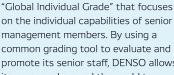
### The Key to Our Strength



the DENSO Spirit is shared among all employees. As an action guideline that provides the driving force for contributing to the automotive society and the lifestyles of people as well as the source of our competitiveness, the DENSO Spirit permeates the actions of the 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. (DENSO Spirit D P.1)



For details on the DENSO Spirit: https://www.denso.com/global/en/aboutus/philosophy-and-vision/denso-spirit/



company. This system incorporates a

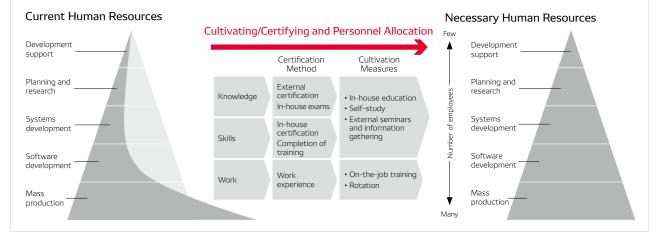
common grading tool to evaluate and promote its senior staff, DENSO allows its personnel around the world to develop their careers on a global scale. Through this system, DENSO aims to further develop its global business by recruiting employees with a diverse range of values and abilities. To nurture 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. At the 56th National Skills Competition held in 2018, our technicians won 16 medals, including seven gold medals. In addition, our technicians won two silver medals at the 38th National Abilympics.

### *Hitozukuri* : Further Reinforcing Our Strengths

### Cultivating Human Resources in the Soft Domain

With technologies such as automated driving and connected vehicles, the integration of automobiles and IT is occurring at an even faster pace. Under these circumstances, the value of the soft domain in terms of automobiles is rising, and competition to acquire outstanding human resources that specialize in this domain is becoming more intense. As productivity in the soft domain depends greatly on the capabilities of the individual, DENSO is focusing its efforts on advancing the human resources within the Company that specialize in the soft domain through the Software Engineer Verification System and on realizing optimal personnel allocation through the visualization of engineer capabilities. To further extend the scale of our software development and expand into new domains, we will support the growth of our employees' individual capabilities by enabling them to gradually acquire design capabilities, which are particularly important, and project management skills. In doing so, we aim to strengthen our competitiveness in the soft domain going forward.

Systematically Cultivating and Certifying Human Resources in the Soft Domain, and Allocating the Best Personnel for Each Project



Promoting the Skill Development of Software Engineers

### TOPIC



Shin Tanemura Project Assistant Manager Electronics Engineering Division 2

Against the backdrop of the electrification of automobiles, the role of software in automotive-related industries is growing more important by the day. Accordingly, we established the in-house Software Engineer Verification System in 2015.

When I participated in educational courses under this system in 2018, I was able to learn about various topics from both internal and external lecturers, including software design and management-related insight and know-how. Through this curriculum and the experience of acquiring official qualifications, I received certification under this Software Engineer Verification System.

At DENSO, I have been involved in the design of engine ECUs. Through engaging in design on a day-to-day basis, I tended to only gain knowledge that specifically related to my work, but I had a desire to acquire fundamental knowledge pertaining to software development in general. By studying under the Software Engineer Verification System, I was able to academically and systematically reinforce my knowledge on design and management methods, giving me a true sense that I had become a full-fledged engineer. When planning the courses I should take under this system, I had conversations with my supervisor about my vision for the future, and this was an extremely valuable experience for me. Going forward, I want to actively make use of opportunities similar to the Software Engineer Verification System to further deepen my knowledge as a software engineer.

### Further Underpinning Our Three Strengths Accelerating External Collaboration

In the automated driving and other new domains, response technologies that focus on the soft domain are becoming more complex and sophisticated, and the speed of technological innovation is increasing. Accordingly, there is a limit to what we can do in terms of developing technologies on our own. Through collaboration with optimal business partners, we are working to strengthen our technological capabilities and accelerate our development speed by acquiring new technologies and personnel.

When pursuing this kind of collaboration, we aim to acquire resources and technologies that are essential in the short and medium term. We also aim to secure future technologies and new business models over the medium to long term. Guided by these aims, we are making active efforts to form business alliances. Additionally, to acquire outstanding human resources in the soft domain, we established a branch office in Tokyo in 2016. Building on this expansion in Tokyo, we established a new R&D office in the Tokyo neighborhood of Shinagawa in April 2018. In these ways, we have been making efforts to establish an environment in which a greater number of personnel can gather. Over half of the employees at our Tokyo branch office are mid-career hires. Going forward, we plan on expanding the scope of our operations in Tokyo by acquiring not only software engineers but also personnel that can play a key role in product planning and business model creation.

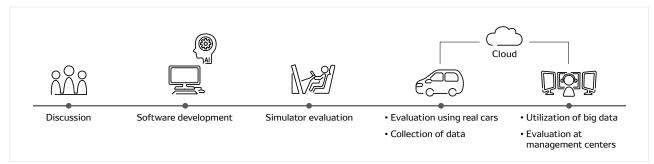
Progress of DENSO's Business Alliance Strategy	,	De	omains covered thr	ough our busi	ness alliances
	Four Focus Fields				
Purpose of Collaboration	Electrification	Advanced Safety and Automated Driving	Connected Cars	Non-Automotive Businesses	
				Factory Automation	Agriculture
Short-term Secure management resources (Developers, purchasing power, manufacturing capabilities, and sales channels)					
Medium-term Supplement necessary technologies (Technologies and insight necessary for organic business growth)					
Long-term Acquire future technologies and new business models (Innovative technologies and businesses necessary for dynamic business expansion)					

### Accelerating Development in the Advanced Mobility Domain through Co-Creation

Development competition is further intensifying in the field of automated driving, and it is now necessary to pursue collaboration that goes beyond industries. To that end, we established Global R&D Tokyo in April 2018 1. By establishing an R&D base for automated driving in the Tokyo metropolitan area, we now have a headquarters for cutting-edge development in the advanced mobility domain. At Global R&D Tokyo, we are focusing primarily on the development of algorithms and software. Through co-creation with automobile manufacturers and external partners, we are accelerating the planning, development, and verification of state-of-the-art technologies and advanced mobility systems and promptly launching them in the market. Also, in June 2020 we intend to open a new vehicle testing and development facility and office **2** at the former site of Haneda Airport, which will develop and test automated driving technologies. By conducting verification tests on a built-in road using cars equipped with the technologies gained through research at Global R&D Tokyo, this new facility and office will allow us to take an allencompassing approach to verification tests in the Tokyo metropolitan area that will help us identify the functional capabilities of our prototypes and their potential as valuable services. Through these efforts, we aim to further accelerate the pace of our development.

### Development Process for Advanced Mobility

Development in the advanced mobility domain follows the process in the diagram below.



April 2018: Establishment of Global R&D Tokyo Promptly launching advanced mobility systems into the market through co-creation



### 2 June 2020: Establishment of a new vehicle testing and development facility and office at the former site of Haneda Airport

Establishing vehicle testing facilities and implementing verification tests (including on public roads)



Source: Haneda Mirai Development Corporation

### TOPIC

### Pursuing the Development of Advanced Technologies for Automated Driving Together with Our Co-Creation Partners

I am working to develop driving control algorithms geared toward automated driving. Thus far, I have carried out verification tests in Hokkaido (Abashiri), Kariya, and Tokyo. To identify and address the issues we discover through these tests, I am engaging in development while holding thorough discussions with teams responsible for recognition, judgment, and operation. Additionally, after using simulated evaluations to conduct beforehand confirmation, I carry out verification tests based on in-vehicle evaluations.

In our in-vehicle evaluations, we are able to promptly recognize issues that were difficult to ascertain in our simulated evaluations. To give an example, we were able to recognize the importance of offering peace of mind. When designing a system placing all the emphasis on safety, there is a tendency to develop the system with extreme handling, sudden acceleration, and sudden braking features. However, when I actually tested such an automated driving system in-vehicle, it was actually quite frightening and discouraged me from driving. While safety is naturally a crucial aspect of automated driving, offering peace of mind is also indispensable. I conduct my daily research to ensure that people do not feel uneasy riding in cars with automated driving systems and to realize a comfortable driving experience.

Our research team comprises researchers from various fields, including automobile manufacturers, universities and research institutions, and semiconductor manufacturers. By pursuing development together with professionals with diverse backgrounds, we are able to gain completely different perspectives based on the same data, thereby making for a highly stimulating working environment.



Keigo Fujimoto Advanced Mobility Systems R&D Division Global R&D Tokyo

Keigo Fujimoto joined DENSO in February 2017. He previously worked for an on-board computer manufacturer where he was involved in the development of driving control algorithms.

# Strengthening Capitals

# Financial Capital

### **Outline of Efforts to Strengthen Financial Capital**

With the aim of realizing sustainable growth and further improvement in corporate value, DENSO leverages the cash flow generated through its operating activities primarily in capital expenditures, R&D, shareholder returns, and M&A. In addition, we allocate management resources in an optimal manner while giving consideration not only to profits/losses but also the composition of our balance sheet. Going forward, we will reconsider the balance between financial security and efficiency as we continue to realize sustainable growth.

Financial and Investment Discipline

Ratio of depreciation: No more than 6%

Total return ratio: Between 30%-50%

Characteristics of DENSO's Financial Capital (Fiscal 2019 results)

Operating cash flow



Capital cost

6.4%

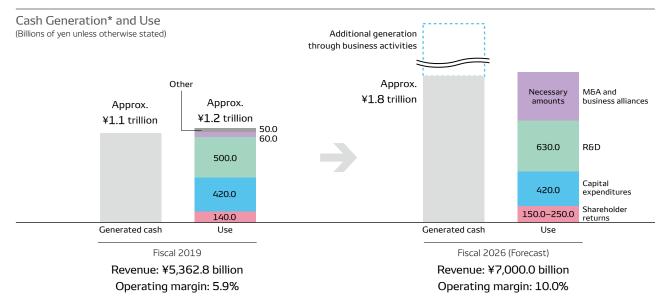
Equity ratio 62.1%

### Approach to Cash Allocation

Currently, DENSO generates over ¥1 trillion in cash through its operating activities each year. By effectively allocating this cash to capital expenditures, R&D activities, M&A, and alliances, we will realize further business growth in the future. In addition, we will also utilize this cash to realize stable and continuous shareholder returns over the long term.

We have recently invested approximately  $\pm 1.2$  trillion, and we believe there will be a greater need for capital in our business

activities going forward. We will continue to effectively carry out investment adhering to strict financial discipline. However, to realize sustainable growth in the future, we will make use of loans and other financing activities in addition to the capital raised through our operating activities. In these ways, we will generate capital for investment and implement business management that aims to improve corporate value.

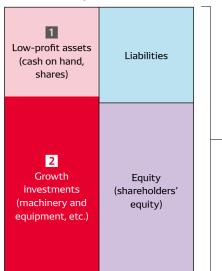


\* Cash generation = Operating profit + Depreciation + R&D expenses

### Approach to Assets, Liabilities, and Capital

While giving sufficient consideration to financial security, we will revise the composition of our balance sheet to realize a balance with financial efficiency.

3



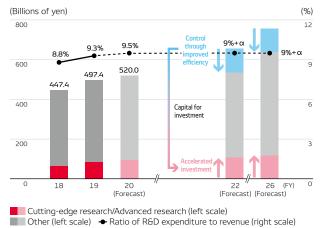
1 Reduction of low-profit assets
Minimization of cash on hand
(monthly sales comparisons: 2-month period $\rightarrow$ 1.2-month period)
<ul> <li>Reduce the amount of cash set aside for emergencies and respond to the repayment</li> </ul>
of short-term loans
<ul> <li>Leverage the GCMS* between Group companies and loan funds between regions</li> </ul>
Promote the reduction of strategic shareholdings
* Global Cash Management System
2 Strengthening of profitability
Invest in growth fields (machinery and equipment, M&A/alliances)
Establish rigorous investment evaluation indicators for capital expenditures/M&A
Clarify products and businesses that should be discontinued based on quantitative
judgments
3 Optimization of capital structure
Actively make use of loans to ensure stable, long-term shareholder returns and maintain
credit rating at its current level
5
Procure a large amount of funds at lower interest rates
<ul> <li>Leverage high credit rating to procure funds at low costs</li> </ul>

Ensure that funds can be raised swiftly when necessary and diversify procurement methods

### Approach to Growth Investments

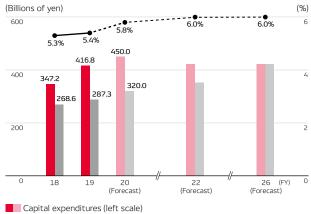
### R&D Expenditure

To remain as a company that drives the market with its technologies, we continuously carry out R&D investment while maintaining a 9% ratio of R&D expenditure to revenue. Meanwhile, as development domains continue to expand, including the response to CASE, we will control cash flows through efficient software development, standardization, the utilization of digital tools, and other efforts to enhance efficiency. Through these means, we will set aside resources for upfront investments in fields that will help us better prepare for future technologies.



### **Capital Expenditures/Depreciation**

In the past, there were periods when DENSO had an extremely high ratio of depreciation to revenue. There were also periods when this ratio was low as we narrowed down investments to an excessive degree. We have now determined that a ratio of depreciation to revenue of within 6% is ideal for operating our businesses under a robust structure, and we will continue to pursue more efficient, highly disciplined investment in such areas as *DANTOTSU* plants and 1/N production equipment.



### M&A and Business Alliances

Over the past few years, the number of M&A projects has been relatively small, as were investment amounts. However, in fiscal 2018 we began to further accelerate our M&A efforts. In fiscal 2019, we carried out over 20 investments toward M&A and business alliances. To respond to the dramatically changing business environment, we will actively pursue M&A-related investment with various aims, including securing essential resources and technologies and acquiring new business models.

When making an investment, we are working to enhance our judgment capabilities to determine whether an investment has deviated from our original intentions. From a quantitative perspective, we determine a level of profitability on which to base our investment decision. After carrying out an investment, we monitor profitability levels and progress of investment-related activities on a quarterly basis in an effort to realize a steady return.

# Manufacturing Capital

### Outline of Efforts to Strengthen Manufacturing Capital

DENSO is committed to thoroughly integrating its in-house technologies and has established manufacturing bases that bring together its unique production technologies to create high added value (*Monozukuri*, P.38). Through such efforts, we have been strengthening our manufacturing capital so that we can provide competitive products on a global basis. We are also building a production structure to enhance the satisfaction of customers in all areas of operations in terms of quality, cost, and delivery. At the same time, we are striving to reduce our environmental burden within our business activities through the pursuit of world-leading environmental efficiency and high productivity. In these ways, we are working to evolve our manufacturing bases.

Target KPI (Fiscal 2021 target)

 $\label{eq:productivity} Productivity enhancement through the introduction of F-IoT: 30\% (compared with fiscal 2016)$ 

Characteristics of DENSO's Manufacturing Capital (Fiscal 2019 results)

Capital expenditures

¥**416.8** billion

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

32% reduction (compared with fiscal 2013, non-consolidated)

In-house power generation ratio\*

45.6% (non-consolidated) \* Ratio of electricity generated through cogeneration to total electricity used

### Global Production Structure That Achieves Outstanding QCD

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. In addition, we are working to optimize our manufacturing bases by giving consideration to product characteristics, such as product size and processing difficulty, and local characteristics, such as the employment environment.

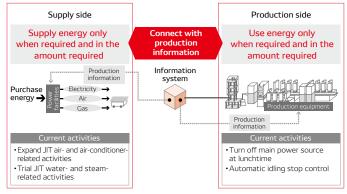
Meanwhile, to win out against the global competition, at our manufacturing bases around the world we aim to achieve leading levels of QCD\* in each region and realize manufacturing that can withstand change. Based on this aim, we are proceeding with the creation of *DANTOTSU* plants through steady technological innovation and EF activities in which all employees participate ( $\square$  P.38). Furthermore, we are introducing F-IoT in order to share information on the conditions and improvement measures at each plant in real time, enhance improvement synergies on a global scale, and accelerate the speed at which improvement measures are carried out ( $\square$  P.39). In this manner, we aspire to create plants that leverage the knowledge of people to the greatest extent possible.

\* Quality, cost, and delivery

### Minimum CO2 Monozukuri

In terms of production, DENSO is actively promoting activities to reduce  $CO_2$  and working to develop eco-friendly technologies for production processes. We are also implementing rigorous energy-saving initiatives, which cover everything from energy supply to energy use where all employees participate. Additionally, we are making use of cogeneration and renewable energy. Through these efforts, we aim to halve the amount of energy we use by fiscal 2026 (50% reduction in  $CO_2$  emissions per unit, compared with fiscal 2013).

Based on the idea that "energy for production is not fixed infrastructure but another component to be controlled," we are globally promoting Just-in-Time (JIT) activities that aim for the utilization and supply of just the right amount of energy at the necessary time.



Moreover, at all of our domestic plants, we are accelerating the introduction of cogeneration systems that utilize municipal gas, which produces only a small amount of CO<sub>2</sub> emissions, as fuel power for generation and make use of waste heat. These systems have helped us achieve an in-house power generation rate of 45.6% in Japan. Currently, we are promoting the introduction of cogeneration systems at overseas Group companies while taking into account the circumstances surrounding energy in each country.

### 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 risk mitigation measures and sharing case studies of such measures. We also ensure emergency water resources in accordance with regional needs and actively promote rainwater usage. Furthermore, we are undertaking efforts to address water risks in our supply chain based on our understanding of current conditions.

### Quality Assurance—The Pride of DENSO

Since its founding, DENSO has placed the utmost importance on quality and has provided safe, high-quality products that have earned the trust and satisfaction of its customers. We have designated the thorough implementation of the Quality First principle, the practice of quality assurance from the beginning of production, and the promotion of quality control with full employee participation as basic quality assurance policies, and we are committed to carrying out a Customer First principle in creating products. Additionally, based on the information that our sales and technical divisions collect from customers, we are working to make continuous improvements in terms of QCD with the aim of further enhancing customer satisfaction.

### Case Study JIT Water Management

Just-in-Time (JIT) water management 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 able 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.

### **Promotion Structure**

In order to provide customers worldwide with optimum products matched to the characteristics of each region, we have established Technical Centers (T/Cs) in Japan, the United States, Germany, Thailand, China, India, and Brazil. This global structure allows us to conduct product development, quality testing, and evaluation in accordance with local characteristics. In addition, the DENSO Group has completed the acquisition of ISO/ TS16949 certification.

### CASE STUDY

### Building an Optimum Quality Assurance Structure in Accordance with the Evolution of Technology

DENSO has worked to establish an optimal quality assurance structure in accordance with the evolution of technology, thereby promoting product development that places safety as its top priority. Currently, we are taking steps to reinforce our quality assurance frameworks in response to the progression of advanced driver assistance systems (ADAS), automated driving, and connected cars.

For ADAS and automated driving systems, in addition to our conventional quality assurance efforts, including simulated evaluations of individual components, we recreate conditions responsible for malfunctions discovered during vehicle test driving in order to confirm the quality of these systems. In this way, we thoroughly ensure the safety of



A nighttime pedestrian model used in our assessment of collision avoidance braking systems

these systems in vehicles. In addition, for vehicles with automated driving, we are working to confirm mobility and discover new conditions that cause malfunctions through test driving performed in North America. Also, in terms of automated driving systems themselves, it is necessary to conduct quality assurance not only before products are shipped but after they are launched on the market as well due to the fact that cars continue to evolve.

While technologies involving automobiles continue to advance, our desire to deliver high-quality products that help eliminate traffic accidents remains unchanged, no matter how much cars themselves evolve. Going forward, by taking steps to reinforce our quality assurance structure with a constant focus on the future, we will continue to provide high-quality products and services to society.



### **Outline of Efforts to Strengthen Human Capital**

At DENSO, we believe that corporate growth is achieved when each of our employees leverages his or her abilities to the greatest extent possible and leads an active and fulfilling lifestyle.

Presently, we are dedicated to pursuing diversity, which supports our global business development. To that end, we are moving forward with a wide range of efforts further empowering our diverse group of employees, including strengthening the recruitment of and promoting an active role for women as well as promoting the employment of people with disabilities. In addition, to ensure that our employees pursue their work with a high level of motivation, we are endeavoring to ensure the mental and physical health of our employ-ees and establish a safe and secure workplace in which they can carry out their duties with a sense of fulfillment. We are also encouraging our employ-ees to pursue healthy lifestyles.

Target KPI (Fiscal 2021 target)

Number of female employees in management positions: 100 (non-consolidated)

### Characteristics of DENSO's Human Capital (Fiscal 2019 results)

Ratio of overseas employees

55%

Ratio of paid leave taken

94.8% (non-consolidated)

Turnover ratio

0.84% (non-consolidated)

### Promoting Diversity & Inclusion

We value new ideas that are created by our employees with diverse backgrounds, and we believe that nurturing kindhearted, thoughtful employees who respect each other's individuality is essential for realizing sustainable growth. To this end, we are promoting diversity and inclusion, which involves making full use of the skills and perspectives of our employees around the world in order to realize an organizational environment and culture that embraces all individuals, regardless of personal attributes such as gender, age, nationality, disability, career history, and value systems, thereby allowing a diverse group of employees to work with enthusiasm and energy.

### **Promotion Structure**

In order to clarify global policies, share initiatives and policy progress in each region, and debate common challenges, DENSO is pursuing activities such as establishing a Global Diversity & Inclusion Committee made up of executives, representatives of each region, and other members, in addition to a promotion committee system in each region.

Promoting the Active Role of Female Employees
We have made progress in providing career-building support
and in reforming workstyles so that women can advance their
careers throughout each major life event. For example, we have
introduced various support programs that far surpass the legal
requirements, such as childcare leave, shortened work hours,
and mobile working, thereby enhancing the flexibility of our
female employees in terms of working location and work hours.

In addition, we are making efforts to raise Companywide awareness of the issues facing women in the workplace by conducting training that provides opportunities for women to consider their careers and approach to work (Number and Ratio of Female Employees in Managerial Positions [] P.91).

Results of Our Efforts (fiscal 2018	→ fiscal 2019)
Number of female employees in	~~
management positions: $61 \rightarrow$	86 (non-consolidated)

### Promoting the Employment of People with Disabilities

Since starting the regular employment of persons with disabilities in 1978, DENSO has actively worked to expand employment and occupational opportunities for people with disabilities.

In 1984, we established DENSO Taiyo Co., Ltd., a specialpurpose subsidiary that primarily hires people with physical disabilities. This company is engaged in the production of such products as vehicle instrument clusters and smart keys. In 2016, we established the special-purpose subsidiary DENSO Blossom Co., Ltd. This company offers employment opportunities to people with mental illnesses and intellectual disabilities and is engaged primarily in clerical work.

At the moment, we employ over 700 people with disabilities on a Groupwide basis that includes our head office and these two subsidiaries.

### Health and Productivity Management\*1

Good physical and mental health is essential for ensuring the happiness of our employees and their families, and provides the source for working in a lively and energetic manner.

DENSO positions promoting the health of its employees as an important management task, and announced its Health Declaration\*<sup>2</sup> in September 2016. At the same time, to encourage activities that promote employee health and raise the level of health awareness in the work-place, DENSO is working to enhance its health-related initiatives from the perspective of both physical and mental health.

Also, to promote health management at each Group company, we formulated the DENSO Group Health and Productivity Management Basic Principles in February 2019. By sharing these principles globally and implementing health management activities based on the conditions at each company and in each country, we will improve the health awareness (Health Literacy) of each employee and establish a more comfortable working environment across the entire Group.



As a result of such efforts, DENSO was included in the Health & Productivity Stock Selection,\*<sup>3</sup> a joint initiative carried out by the Ministry of Economy, Trade and Industry (METI) and the Tokyo Stock Exchange (TSE), as well as the Superior Health & Productivity Companies (the White 500) Program,\*<sup>4</sup> which is promoted by the TSE and the Nippon Kenko Kaigi (Japan Health Council), for the third year in a row. In addition, 16 domestic Group companies have also been included in the White 500 Program.

\*1 "Health and productivity management" is a registered trademark of the NPO Kenko Keiei Kenkyukai.

\*2 To read the entire DENSO Health Declaration, please refer to the "Sustainability Information" section of the Company's corporate website.

- \*3 The Health & Productivity Stock Selection selects listed companies on the TSE that strategically consider and implement health and productivity management for their employees as a top management priority. The Health & Productivity Stock Selection introduces the selected corporations as an attractive investment option for investors who prioritize the improvement of corporate value from a long-term perspective. Through this effort, METI and the TSE aim to encourage corporations to further pursue efforts in "health and productivity management."
- \*4 The Superior Health & Productivity Companies (the White 500) Program is not restricted to listed companies and recognizes corporations that implement superior health and productivity management in collaboration with insurers such as health insurance associations. This program commenced in 2017.

### Way of Working with Tremendous Speed and Efficiency

By eliminating unnecessary processes, meetings, tasks, and other work-related procedures to improve productivity, we have made strides in reforms that reduce the number of work hours for our employees. Going forward, we will not only continue striving to reduce work hours but also pursue reforms focused on enhancing the motivation of all employees and heightening their job satisfaction.

We view the eight factors in the diagram below as essential elements in providing a fulfilling work experience. To enhance these factors, we will move forward with three reforms (work reform, management reform, and communication reform), in addition to promoting health and productivity management and establishing employee-friendly working environments.



### Work Reform

By introducing new ways of working, such as telecommuting, and innovating work processes using IT tools, we will establish working environments that make it easier for employees to concentrate and exercise their individual capabilities.

### Management Reform

We are promoting educational activities aimed at our management and establishing a framework for enhancing dialogue between employees and their supervisors. In these ways, we will strengthen management that produces results from the mutual synergies created by a diverse pool of talent.

### **Communication Reform**

We are providing financial assistance for reform activities that help employees pursue self-study and encourage them to make each other better. We are also promoting office reforms that provide an even more fulfilling work experience through revitalized communication. In these ways, we will increase the level of communication among employees and foster a lively workplace culture.

Through these three reforms, we will provide an even more fulfilling work experience to each employee, accelerate the speed of our business execution, and invigorate the workplace, thereby strengthening Companywide competitiveness.

# Intellectual Capital

### **Outline of Efforts to Strengthen Intellectual Capital**

To realize its Long-term Policy for 2030, DENSO is promoting its intellectual property (IP) strategy in unison with its business strategies. In particular, in the four focus fields established under the Long-term Plan for 2025 of electrification, advanced safety and automated driving, connected cars, and non-automotive businesses (factory automation and agriculture), we are focusing on building a patent portfolio and promoting IP activities related to open innovation. We are also supporting efforts to expand our businesses and achieve sustainable growth by strategically utilizing the patents that we have acquired.

### Target KPI

Ratio of R&D expenditure to revenue: 9% level

### Characteristics of DENSO's Intellectual Capital (Fiscal 2019 results)

R&D expenditure (ratio to revenue)

¥497.4 billion (9.3%)

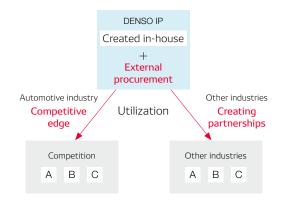
Number of patent applications filed

Approx. **6,900** 

Number of patents held Approx. **39,700** 

### Promotion of IP Strategy

DENSO is promoting its IP strategy in unison with its business strategies. Added value for automobiles is beginning to shift toward the CASE domain. Under these circumstances, there are three main initiatives we are promoting 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 are (1) sharpen our competitive edge in the automotive industry by leveraging our IP rights, (2) create partnerships with companies in other industries based on IP collaboration, and (3) promote the external procurement of IP (break free from the "not invented here" syndrome). Guided by these three initiatives, we will realize an advantageous business ecosystem through the utilization of IP.



### Strengthening Our Global IP System

To support overseas development and design, we have set up IP organizations at our development and design bases in North America, Europe, and China, thereby strengthening our efforts to acquire IP rights for local inventions and examine other companies' IP rights. Furthermore, at our locations in North America and Europe, we deploy patent attorneys to provide support in patent disputes. In China, we protect the DENSO brand by taking measures against counterfeit products and copyright infringements. At overseas locations where we have yet to set up an IP organization, we have established systems to reward inventions and provide education on intellectual properties. In doing so, we are working to encourage local IP activities.

In addition, as part of our efforts in global IP collaboration, we hold the Global IP Conference. This conference brings together members of IP organizations at our locations around the world with the aim of resolving local IP issues and invigorating our IP activities in all regions of operation.

### **Results of IP Activities in Fiscal 2019**

DENSO invests approximately 9% of its revenue in R&D activities and, as a result, has steadily secured patents around the globe. In 2018, DENSO was ranked second in the automotive industry, including car manufacturers, for the number of newly registered patents in Japan, and seventh in the United States.

# Social and Relationship Capital

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

DENSO advances its business activities while interacting with various stakeholders. DENSO believes that establishing good relationships with its stakeholders is an essential part of improving corporate value. DENSO also clarifies its responsibility to stakeholders in its business activities, and continues to engage in dialogue with stakeholders as a helpful means of avoiding selfsatisfying activities that are biased by its own logic and preconceptions. DENSO fulfills its social responsibility while reflecting stakeholder opinions and the needs of society in its corporate activities.

### Characteristics of DENSO's Social and Relationship Capital (Fiscal 2019 results)

Number of suppliers



Local procurement rate

Approx. 80%

Number of dialogues with institutional investors (total number of companies)

Approx. **850** 

### Efforts to Encourage Dialogue with Stakeholders

Stakeholders	Efforts to encourage dialogue	Results	
Customers	<b>Customer Consultation Center</b> We provide the feedback we receive from customers via the Customer Consultation Center to relevant departments, which we then use to offer even better products and services.	Approx. 5,400 inquiries related to products	
Employees	<b>Global Conference</b> At the Global Conference held in 2019, directors and members of man- agement from our locations around the world gathered to hold a discus- sion on realizing the Long-term Policy and implementing long-term plans.	Approx. 300 participants from around the world	
Suppliers	<b>General Meeting of Suppliers</b> As a measure to deepen interactions with our suppliers, we hold the General Meeting of Suppliers to provide information about our procure- ment policy and the initiatives of each business division.	Approx. 380 suppliers from around the world	
Shareholders and Investors	<b>Ordinary General Meeting of Shareholders</b> At the Ordinary General Meeting of Shareholders held in 2019, the chairman of the Board provided a report on the Company's future initia- tives and answered questions from the shareholders. Also, a tour of the Company's plants was conducted.	Approx. 1,600 meeting participants Approx. 850 dialogues with institutional investors (total number of companies)	
	Dialogue with Investors We held dialogues with investors through briefings on results and future strategies, individual interviews and teleconferences, overseas road shows, and other means.	Approx. 200 dialogues with individual investors (total number of participants)	
Local Communities	Community Service Day DENSO has designated a day ("Community Service Day") for employees to give back to their local communities. For the Community Service Day in 2019, our employees carried out unique social contribution activities. Corporate Sports	Approx. 44,100 Community Service Day participants (employees)	
	We offer encouragement to our employees through sports activities. At the same time, we value the connections we make with local communi- ties through sports.		

### Promotion of Sustainability Together with Our Suppliers

Guided by the basic policies of open and fair business practices and responsible procurement activities, DENSO promotes sustainability together with its suppliers around the world in order to continue to fulfill its social responsibilities within the supply chain on a Groupwide basis.

### Promotion of Sustainability Based on the Supplier **CSR** Guidelines

DENSO has determined the Supplier CSR Guidelines and shares these guidelines with our roughly 6,100 suppliers and request that they carry out procurement in line with the content of these guidelines. We also regularly ask our suppliers to assess their own CSR practices through self-diagnostic sheets. When necessary, DENSO employees responsible for CSR procurement visit suppliers to conduct assessments, hold dialogues, and recommend improvements. When beginning transactions with a new supplier, we conclude a basic transaction contract that addresses issues such as compliance, protection of human rights, environmental conservation, and occupational safety.

Thorough Implementation of Green Procurement According to the Green Procurement Guidelines In the environment field, DENSO has formulated the DENSO Group's Green Procurement Guidelines based on the Group's basic environmental policy, Eco Vision. These guidelines cover such matters as managing and reducing materials with high environmental burden and establishing environmental management systems. We ask that our suppliers engage in green procurement and management based on these guidelines.

Initiatives to Address the Issue of Conflict Minerals Minerals that originate from conflict areas are mined through non-humanitarian acts, and it is said that these minerals are used to finance armed groups. Accordingly, conflict minerals have become a significant social problem in regard to human rights.

DENSO recognizes that conflict minerals represent one of the most significant social issues within the supply chain. Therefore, in addition to establishing response measures, we have revised our Supplier CSR Guidelines in light of this issue. We currently ask that all our suppliers carry out an investigation into conflict minerals. Going forward, we will collaborate with our suppliers to eliminate the use of materials that are suspected to come from conflict areas.

### **ESG-Related External Evaluation**

DENSO has received high evaluation in terms of socially responsible investment (SRI), consistently being selected for inclusion in indices in Japan and overseas, including the Ethibel Sustainability Index, which is a representative SRI index in Europe.





MSCI Japan ESG Select Leaders Index





9th place in the Nikkei Environmental Management Survey's overall ranking of manufacturers

### **TOPIC** DENSO Mexico's Community Service Activities—Aiming to Become the Most Respected Company in North America

DENSO Mexico S.A. de C.V. aims for sustainability management that ties together business and local contribution. In fiscal 2019, DENSO Mexico employees who have participated in the WorldSkills competition (DENSO Mexico is the only Mexican company to have participated in the competition) offered an opportunity to 7,000 students from local vocational schools to learn highly sophisticated technical skills. In addition, DENSO Mexico made the decision to open an inhouse nursery (the first of its kind in the Mexican manufacturing industry) and establish a solar power generation facility (the first of



Participants in the WorldSkills competition

our North American Group companies to do so). Going forward, DENSO Mexico will push ahead with efforts to become a company that is loved by local communities and is able to contribute significantly to these communities.

### TOPICS

# The DENSO Group's Corporate Citizenship Activities and Sports Activities

To contribute to the sustainable development of society, DENSO is promoting a variety of corporate citizenship activities as a good corporate citizen. In doing so, we aim to earn the trust and understanding of our stakeholders.

### Support for Adaptive Sports

To realize a vibrant society of coexistence, the DENSO Group has continuously supported athletic games and organizations for adaptive sports for almost 30 years. Through this support, the Group aims to make adaptive sports better known through such events as workshops and lectures in which our employees and their families as well as local community members can easily participate.



### **Sports Activities**

Corporate sports play a major role in invigorating the workplace and fostering a sense of unity among employees. The DENSO Group therefore supports and develops young athletes who compete at the top level in Japan in such sports as women's volleyball, basketball, softball, and long-distance running. By doing so, we bring happiness to our employees while valuing the connections we make with local communities. Going forward, we will continue to contribute to the development of the sports industry in Japan.

Teams and players active during fiscal 2019



team: Maki Takada



Women's vollevball team: Yurie Nabeya



Women's softball team: Hitomi Kawabata



Women's longdistance running team: Mikuni Yada



Rowing team



Fencing: Daiki Fujino (DENSO Iwate Corporation)

### **Development of Youth**

We host the DENSO Science School in which current and retired DENSO employees visit elementary schools as lecturers to provide support to science teachers. These employees primarily visit elementary schools in the areas where the Company has offices. This activity started in fiscal 2012, and we visited 94 schools in local areas in fiscal 2019. Thus far, a total of 40,000 elementary school students have participated in the DENSO Science School.





### Further Strengthening Our Capitals Strengthening Our Organizational Capabilities

To reach the growth targets adopted in its Long-term Plan, 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 is working to realize significant change in its management structure to enhance its organizational capabilities and compete in a challenging business environment.

### Five Pillars of Management Reform

### L Enhancement of Vehicle Perspective and Streamlining of Technological Development

To effectively develop complex systems for automated driving and other technologies, we need to optimize our development from the perspective of vehicle-based systems. We are therefore reorganizing our businesses to accomplish just that. Also, as part of our strategy to achieve overwhelmingly high levels of differentiation in terms of components and systems, we are streamlining the technological development of our four key devices: ECUs, semiconductors, sensors, and motors, so that we can realize growth in new business domains and enhance the profitability of existing in-vehicle technology business.

### 2 Advanced R&D Function to Realize Agile Development Globally

We have established satellite R&D teams in Finland, Israel, and other epicenters of innovation in order to promote the development of highly competitive products that meet the needs of customers. Through these teams, we will collaborate with various local partners, such as universities, research institutions, and start-up companies, as we form alliances under shared goals. We will also promote new technological development that leverages the unique characteristics of local regions.

### 3 Business Unit Evolution and Smaller but Stronger Headquarters

We will increase the responsibility and authority of each business unit in an effort to increase the speed of our management and bolster our competitiveness. We will also streamline our head office by revising our personnel allocation from a "zerobased" perspective. At the same time, we will aim to transition to an organization that can create new value at unprecedented speeds.

### 4 Global Management with Optimal Use of Group and Regional Power

Our regional supervisors, who are responsible for achieving regional business targets, make proactive efforts through regionally independent management at a speed that best fits their individual region. Their efforts will help us transform into an organization that can realize faster decision-making and business execution on a global scale.

### 5 Way of Working with Tremendous Speed and Efficiency

We will establish an environment in which employees can work without being bound by the constraints of location and time while working to reform our various business processes, thereby ensuring productivity and realizing a work-life balance for our employees. In these ways, we aim to become a company with incomparable frontline capabilities and where employees can work with passion and a smile.











### Organizational Reform to Accelerate the Long-term Plan

Electrification

### Merging the Electronic Component Operations of Toyota and DENSO

Currently, Toyota Motor Corporation's electronic component operations are conducted by both Toyota and DENSO. In April 2020, both the development and production of these electronic component operations will be consolidated within DENSO. By consolidating these operations within DENSO, which has a high level of expertise in the field of electronic components, we will establish a speedy and competitive development and production structure. In addition, we will aim to maximize resource utilization through such means as shifting resources created through the elimination of duplicate operations within the Toyota Group to new domains that will increase the value of future mobility. By doing so, we will strengthen the competitiveness of the Toyota Group overall.

Electrification

## Establishing a Joint Venture between AISIN and DENSO for the Development of Driving Modules

Driving modules are crucial for the commercialization of electrification as they offer a package of components needed to provide electric vehicles with driving power. In light of this, Aisin Seiki Co., Ltd. (AISIN) and DENSO brought together their respective strengths to establish BluE Nexus, a joint venture engaged in the development and sale of driving modules, in April 2019, with the aim of developing and selling a diverse lineup of driving modules that meet needs related to performance and cost and cater to local conditions. Through BluE Nexus, we will offer a lineup of driving modules that respond to a broad range of electrification needs. We will also establish a structure that can respond to detailed needs, such as developing and selling driving modules that conform to the engines of specific car manufacturers. In these ways, we will strive to commercialize electrification across the entire world.

### Connected Cars

### Strengthening the Connected Service Business

To strengthen the DENSO Group's connected service business, which is geared toward fleet vehicles, we integrated our service business for trucks, buses, and lease vehicles with Group company DENSO TEN's service business for commercial vehicles, centered on taxis. In the connected service domain, it is imperative that we develop applications that thoroughly understand the needs of users in a wide range of fields going forward. To that end, this integration has helped us establish a structure that can expand businesses that cover overall fleet operations by combining the strengths and existing assets of both companies.

## Establishing a Joint Venture through Four Toyota Group Companies to Develop Integrated Control Software

To commercialize automated driving, AISIN, ADVICS Co., Ltd. (ADVICS), JTEKT Corporation (JTEKT), and DENSO combined their technical expertise in the fields of automated driving, vehicle motion control, and related functions to establish J-QuAD DYNAMICS, a joint venture engaged in the development of integrated ECU control software, in April 2019. As integrated ECU control software becomes more expansive and complex, J-QuAD DYNAMICS will help us enhance and accelerate the development of control software. Through this joint venture, not only will we develop control software that meets diverse needs, we will also combine hardware such as sensors, steering, and brakes—which are areas where all four companies excel—with integrated ECUs. Through these efforts, we will realize more advanced automated driving.

Electrification

Advanced Safety and Automated Driving

### Concluding an Agreement with Toyota to Establish a Joint Venture for Research and Advanced Development of Next-Generation, In-Vehicle Semiconductors

Recently, electronic controls have been increasingly installed in vehicles. The number of in-vehicle semiconductors has also grown, and the performance of these semiconductors has continuously improved. In addition, within the progression of CASE aimed at realizing the mobile society of the future, there is a need to develop next-generation, in-vehicle semiconductors, which provide the key to technological innovation. To contribute to this future mobile society, DENSO will establish a new joint venture in April 2020 that will promote research and advanced development of in-vehicle semiconductors with the aim of establishing a more robust R&D structure. In addition, Toyota has agreed to invest in this new company. At the new company, we will conduct cutting-edge research on the basic structure and processing method of next-generation semiconductors and advanced development of electronic components, such as power modules for electric vehicles and periphery monitoring sensors for automated vehicles, that make use of semiconductors.

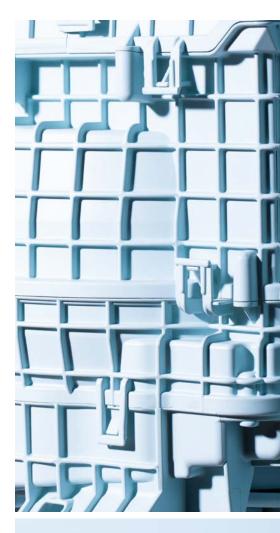


# OVERVIEW BY PRODUCT

- 58 Business Strategy
- 60 Thermal Systems
- 62 Powertrain Systems
- 64 Electrification Systems
- 66 Mobility Systems
- 68 Electronic Systems
- 70 Non-Automotive Businesses (Factory Automation and Agriculture)



DENSO's products have always been ahead of their time and have continued to evolve over the years. Since our inception, we have created a multitude of competitive products. The products we have produced thus far are displayed on the entrance walls of our head office.

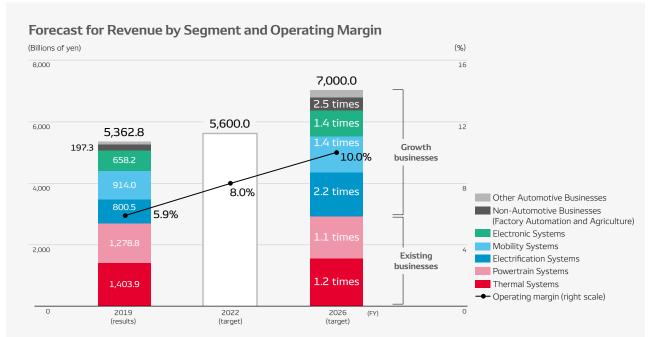






### **Business Strategy**

DENSO is organized around business groups and engages in a wide range of businesses, centered on fields related to automobiles. While reducing risks from the changing business environment through omnidirectional business dispersion, this structure enables these business groups to collaborate with one another, leveraging their respective strengths to accommodate systemization and modularization. By making efforts to secure steady revenue from existing businesses and generate cash flows on a continuous and stable basis through business growth, we will realize sustainable growth for the Company as a whole going forward.



### Growth businesses: Invest in the core fields of electrification, automated driving, connected cars, factory automation, and agriculture

- Expand revenue and profits through the commercialization of eco-friendly products offering peace of mind
- Promote the establishment of a wide range of partnerships and lead the way in electrification and automated Basic
- driving through integrated vehicle systems that span across various product domains stance • Significantly accelerate development and bolster profitability through co-creation with business partners and business process innovation

### Existing businesses: Position as core businesses that can generate earnings in a stable manner

- · Realize growth by increasing new added value (heat management, etc.) Basic
- · Identify products and businesses that should be discontinued to effectively manage resources stance

evel of Growth Opportunities by Segment		Level of growth opportunities High: ● Low: (			
		Developing areas of the automotive society			
Segment		Electrification	Advanced Safety and Automated Driving	Connected Cars	
Growth businesses	Thermal Systems	0	0		
	Powertrain Systems	•			
Existing businesses	Electrification Systems				
	Mobility Systems			٠	
	Electronic Systems	0	0	0	
	Non-Automotive Businesses (Factory Automation and Agriculture)				

### Business-Specific Risks and Opportunities in Developing Areas of the Automotive Society

### Electrification Increase in the Electrification of Vehicles-

### **Electrification of Powertrains**

To respond to stricter  $CO_2$  emissions and fuel consumption regulations in each country, a global increase in electric vehicles is expected. As we already produce a variety of high-performance parts related to vehicle electrification in Japan, the United States, and China, business opportunities are likely to expand in the Electrification Systems business.

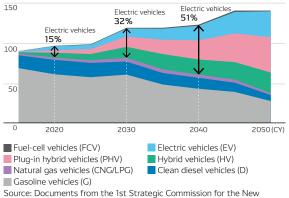
Meanwhile, driving distance and the affordability of batteries are issues related to the widespread use of electric vehicles. In addition, as electric vehicles do not produce heat from the engine and thereby lack a source for heating, there is demand for the development of heat pump systems that efficiently draw in heat from outside air as well as for the efficient use of the small amount of waste heat generated by electric vehicles. Such trends provide us with an opportunity to greatly expand our Thermal Systems business.

# Enhanced Efficiency of Internal Combustion Engines

Electrification presents a risk to our Powertrain Systems business, as this business handles internal combustion engines. On the other hand, while the electrification of powertrains has progressed in developed countries, for the time being we expect that the most popular electric vehicles in these countries will be hybrid and other vehicles equipped with internal combustion engines. Additionally, in emerging countries, we anticipate the continued need for internal combustion engines for inexpensive, eco-friendly vehicles, thus creating demand for enhancing the efficiency of these engines and reducing their environmental burden. In light of these circumstances, we will compensate for the decline in the number of vehicles produced by offering products with high added value, thereby continuing to expand our Powertrain Systems business.

Scenario for the Commercialization of Electrification as Stated by the IEA (Under the assumption of an average temperature increase of  $2^{\circ}$ C)

Projected sales volume of passenger vehicles (millions of vehicles)



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

#### Advanced Safety and Automated Driving Heightened Expectations for Reducing Accidents through Automated Driving

### Intensifying Competition Due to the Entry of Companies from Other Industries

In addition to conventional automotive parts manufacturers, companies from the IT and other industries are making an entry into automated driving and similar domains, giving rise to an increase in technological alliances between OEMs and companies from other industries. As a result, the business environment is expected to become even more competitive going forward. If a company is unable to realize technological sophistication that leads to improvements in durability, reliability, and precision and responsiveness and fails to accelerate development, then it will be overtaken by the competition.

While the business environment is challenging, we will leverage our long-cultivated insight on automobiles to overcome these harsh circumstances. We will also realize high-quality, onboard system components with high reliability and offer them around the world. Accordingly, this difficult business environment provides us with a major opportunity to become an industry leader.

### **Growing Need for Comfortable Interiors**

With the widespread adoption of automated driving technologies, the interior of a vehicle is transforming into a place where drivers can spend time doing activities other than driving. As a result, we anticipate a growing need in the Thermal Systems business for products that pursue comfort focusing mainly on the five senses and human biology research.

Development Status of Automated Driving Technologies



Source: Reference materials from the "Action Plan for Realizing Automated Driving," Ministry of Land, Infrastructure, Transport and Tourism

#### Connected Cars

# Connections between People, Transportation Methods, and Infrastructure, and Transition of Automobiles to a "Mobility Service"

### Shift to High-Value-Added Domains

As connected technologies become more advanced, vehicles are becoming more like smartphones, and it is anticipated that new added value can be created in not only the in-car domain but also the out-car domain as well as domains interconnecting the two.

# THERMAL SYSTEMS



Providing safe, comfortable systems that use the least amount of energy possible in consideration of the environment

### **Business Activities**

Development and production of air-conditioning systems for cars and buses, truck refrigeration units, air purifiers and related air-conditioning products, radiators, and cooling systems

### Strengths

- Leading share of the global market
- Outstanding proposal and development capabilities that link closely to a wide range of products from engine-related control systems to meters that convey information to drivers

### Main Products





HVAC units

Condensers



f ag

CHV

Radiators





Bus air-conditioners

Refrigeration units

### Business Strategy Growth Targets

Drawing on our No. 1 share of clients around the world and our regional development capabilities, we will develop and introduce products that offer new value (with reduced fuel consumption, increased comfort, and comprehensive heat management) and work to expand sales of core products in emerging countries, such as car air-conditioners and radiators. By doing so, we aim to achieve stable growth that is parallel to the growth of the global automotive market.

### Profitability

Through the introduction of world-first technologies and market-first products that offer new value, we create unique value for vehicles while enhancing our profitability. We also engage in rigorous efforts to reduce costs, thereby strengthening the cost competitiveness of our core product lineups.

### Differentiation

We will work to achieve differentiation by using our unique energy-conserving technologies to resolve internal combustion issues related to regulations on fuel economy and exhaust gas emissions. We will also pursue increased comfort focusing mainly on the five human senses and human biology research and work to systemize our air-conditioning products—for which we boast the No. 1 global share. In these ways, we will promote efforts to differentiate our existing products. Furthermore, in the field of electric vehicles, we will steadily capitalize on growth in the market going forward by promptly introducing comprehensive heat management products.

### Organizational Capabilities

We will carry out a full-scale shift from our core product fields to fields for products that offer new value. We will also undertake structural reforms to help us achieve our strategies through such means as strengthening collaboration on a global basis and utilizing business alliances.



### Progress in Fiscal 2019

### Decrease in Revenue Due to the Market Slowdown in China and Europe

In fiscal 2019, revenue for thermal systems declined 2.2% year on year (0.9% on an actual basis\*), to ¥1,403.9 billion, due to such factors as the deceleration in the markets of China and Europe, which offset the impact of our efforts to develop and launch products with new value and expand sales of core products.

\* Excludes the impact of exchange rates and other factors

Revenue (Billions of yen)	
FY19	1,403.9
FY18	1,435.5

### Resolving Social Issues through Our Businesses Efforts toward New Products That Improve the Driving Distance of Electric Vehicles

Electrically driven vehicles such as plug-in hybrids and electric vehicles consume a large amount of energy for indoor heating. Accordingly, maintaining long driving distances is one major issue with these vehicles. As a technology that can be used to solve this



SDGs

contributed to

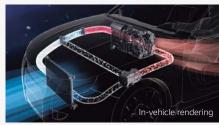
issue, we have been developing and commercializing a heat pump system that controls energy consumption by using heat from outside air as a heat source. This system has already been installed in the Toyota Prius PHV. In 2018, this system was also installed in the Subaru Crosstrek Hybrid in the United States.

Furthermore, we have developed a new electric truck freezer for heavy-duty trucks that applies this heat pump system technology and improves energy efficiency by 20% compared with conventional systems.\* This system has been installed in HINO PROFIA COOL Hybrid trucks since June 2019. \* Comparison made with the condition of operating under ultra-cold temperatures in summer. Based on coefficient of performance, this ratio indicates the energy consumption efficiency of heat pumps, refrigerators, and air-conditioning systems.

### **Progress of Business Strategies**

From an organizational standpoint, to strengthen the heat management business in response to the forecast for the widespread commercialization and expansion of heat pump systems and other systems, we integrated our heat management products into the Cooling Business Unit, thereby renaming it the Thermal Management Business Unit. By enhancing product lineups to meet a wide range of needs and leverage our longcultivated technological capabilities, this new division will provide heat management products in various markets and contribute to enhancing the environmental performance of vehicles. Additionally, the division will focus its efforts on developing and rolling out products that offer comfort with the aim of realizing even more luxurious interiors.

### Heat Pump System



Main in-vehicle products





Outside heat exchanger Inside condenser

Electronic compressor with gas ignition feature



### The Value We Aim to Offer Society

We will incorporate and create "heat value," which is expanding and diversifying, and contribute to the future of society as a leading company that works to reduce fuel consumption to earn the trust of its customers while offering comfortable heat management systems and components.

Yasuhiro lida Head of Thermal Systems Business Group

### POWERTRAIN SYSTEMS



Providing solutions that help overcome the seemingly contradictive task of balancing the joy of life with vehicles with superior environmental performance

### **Business Activities**

- Development and manufacture of gasoline and diesel engine management systems, which cover everything from combustion to intake and exhaust
- Development and manufacture of engine-related products, such as variable cam timing (VCT) systems and exhaust gas sensors; and products for drive systems, such as oil pressure control valves

### Strengths

■ From the perspective of systems, we maintain and comprehensively develop a wide variety of technologies and are active across a broad range of business domains related to powertrains, extending from gasoline and diesel vehicles to hybrid and electric vehicles. We are also able to manufacture products in these domains using highly advanced production techniques.

### Main Products





Gasoline direct injector

High pressure pump



VCT



Exhaust gas sensor



Common rail systems

Spark plug

### Business Strategy Growth Targets

In developed countries, we will promote efforts aimed at enhancing the efficiency of internal combustion engines in the age of electrification and developing new products that contribute to electric vehicles and automated driving. Meanwhile, in emerging countries we will realize optimized specifications using existing products and work to reduce costs. These efforts will in turn contribute to compact, inexpensive vehicles that are eco-friendly. Furthermore, by 2021 we will complete the development of technologies we originally intended to complete by 2025. By expanding our business in emerging markets and entering into new electrification domains, we aim to achieve a stable annual growth rate of 3%.

#### Profitability

We will realize unbeatable levels of cost competitiveness in the expanding markets of emerging countries.

### Differentiation

We will achieve superior environmental performance (reduced fuel consumption, emission control components) through innovative technologies. Leveraging our core technologies, we will allocate resources to the development of subsystems in new electrification domains.

### **Organizational Capabilities**

We will pursue innovation in our development process, starting with model-based development that is able to conduct beforehand assessments via a simulation model rather than a trial product. We will also make full use of F-IoT to spur innovation in our production process. In these ways, we will enhance our system development capabilities and production technology capabilities, which are both Company strengths. By investing the resources we generate through these efforts in our core business fields, we will further improve the efficiency and speed of our management with the aim of achieving our business strategies.



### Progress in Fiscal 2019

### Rise in Revenue Due to Increased Vehicle Production in Asia and Japan

In fiscal 2019, revenue for powertrain systems was up 1.4% year on year (or 2.4% on an actual basis\*), to ¥1,278.8 billion, thanks in part to the increase in the number of powertrains produced for Toyota vehicles in Asia and Japan.

\* Excludes the impact of exchange rates and other factors



### **Progress of Business Strategies**

### Shifting Resources to Future Technologies and Accelerating Their Development

To complete the development of response technologies for 2025 by 2021, we completed our efforts to identify elemental technologies related to fuel consumption and exhaust. In the new electric vehicle domain, we are moving forward with concepts for products that can contribute to this domain by using the elemental technologies we have cultivated through internal combustion engines. We have also commenced development for some of these conceptual products.

For reforms to the development process, we established a dedicated organization that promotes design engineering (DE) activities, thereby enhancing the efficiency of and accelerating our overall development process. In terms of production process reforms, we completed model line activities at the Zenmyo Plant that made full use of F-IoT. We also commenced such activities at other plants.

### Resolving Social Issues through Our Businesses Developing a Small, High Output Ignition Coil That Improves Fuel Efficiency

Through the development of small core technologies, we created CRICs 100 (CRICs: Coil Revolution Internal Combustion series), a small, high output ignition coil that achieves world-leading energy utilization and energy efficiency (volume ratio). Mass production of CRICs 100 commenced in October 2018.

Lean combustion is required to improve the fuel efficiency of gasoline engines. However, lean combustion can make it difficult to ignite fuel. Our products are able to steadily ignite fuel using high ignition energy, thereby enhancing engine efficiency.



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contributed to

Small, high output ignition coil, CRICs 100



### The Value We Aim to Offer Society

In order to reduce the environmental burden of vehicles to the greatest extent possible and offer the joy of driving well into the future, we will support the development of internal combustion engines needed by society through the pursuit of both environmental and driving performance. While continuing to provide systems and components, we will strive to create and deliver new value in order to contribute to society as a whole.

Katsuhisa Shimokawa Head of Powertrain Systems Business Group

## **ELECTRIFICATION SYSTEMS**



Supporting electrification in all areas of mobility to realize an enriched environment and the joy of driving

### **Business Activities**

- Development and production of hybrid and electric car drive systems, power supply and related products, and power supply and starting system parts such as alternators and starters
- Development and production of steering and brake control systems
- Development and production of various kinds of motor and system products, such as wiper systems, power windows, power seats, sliding doors, power steering, and engine control motors

### Strengths

- We maintain a wide variety of technologies and are active across a broad range of business domains that extend from internal combustion engine starting systems and power charging products to products powered by electricity such as hybrid cars, electric automobiles, and fuel-cell vehicles. Drawing on these technologies and extensive business domains related to electrification, we engage in comprehensive, system-based development.
- We boast a solid production track record and global share of core products for electric vehicles, including motor generators and inverters.

### Main Products







Power control unit

Motor generator





Lithium-ion battery pack

Electric power steering motor





Windshield wiper system

Power window regulator motor



Control brakes (motor: ECU)

### **Business Strategy Growth Targets**

As the leading supplier of energy management systems for electric vehicles and electric drive systems that allow for superior control over driving, turning, and stopping, we will promote the electrification of a diverse range of mobile solutions, including not only automobiles but also aircraft, with the aim of realizing annual revenue growth of over 20%.

### Profitability

Supported by the revenue generated by products for hybrid vehicles, which we have cultivated over the past 20 years, we will establish and leverage key technologies that can be applied to a wide range of mobility domains while working to enhance our product lineup. Also, in anticipation of the continued global increase in the number of electric vehicles, we have established five production bases around the world, thereby globally promoting the electrification of a diverse range of mobility.

### Differentiation

Utilizing in-house semiconductor manufacturing technologies and sophisticated winding technologies, we are boosting the competitiveness of our products in such ways as developing small, high-performance inverters and motors that help improve the fuel economy of vehicles. In addition, we have extremely thorough knowledge of the characteristics of automobiles. Using the technologies we possess, we will improve the value of vehicles as a whole, from components to systems.

### Organizational Capabilities

In 2018, we integrated the small motor business (formerly ASMO Co., Ltd.) with the steering and braking systems business (internal organization). From 2019, we have commenced collaboration with AISIN AW CO., LTD. and a company in China to expand on these efforts. Going forward, we will integrate the core electronic component operations of Toyota Motor Corporation into the Company, thereby establishing a structure for promoting the development of sophisticated system products that offer high added value.



### Progress in Fiscal 2019

### Increase in Revenue on an Actual Basis Due to the Steady Expansion in Products Powered by Electricity

In fiscal 2019, revenue for electrification systems rose on an actual basis due to the increased production of power controller units for Toyota vehicles. However, when considering the downward pressure resulting from the change in accounting methods for materials supplied for a fee, revenue came to ¥800.5 billion, down 2.1% year on year (up 1.6% on an actual basis\*).

\* Excludes the impact of exchange rates and changes in accounting methods



### Progress of Business Strategies

### Strengthening Organizational Capabilities to Popularize Electrification

Toyota and DENSO made a formal decision and concluded a transfer contract to integrate the core electronic component development and production operations of both companies in April 2020. Amid the progressing shift toward electronic control of automotive components, this integration will help establish a speedy and competitive development and production structure and realize product differentiation.

Aisin Seiki Co., Ltd. and DENSO established BluE Nexus Corporation in April 2019, a joint venture company that develops and sells driving module packages that consist of the key components needed for electric vehicles. Through a product lineup that meets a wide range of electrification needs and a development and sales structure that can deliver the necessary performance and respond to local circumstances, BluE Nexus will aim to promote the popularization of electrification across the globe.

### Resolving Social Issues through Our Businesses

Contributing to the New Mobile Society with Technologies That Realize Eco-Friendly, Highly Efficient Transportation We develop and produce key components for electric vehicles, such as motor generators, inverters, and battery ECUs. At the same time, we are pursuing the development of technologies

that enhance product efficiency and promote advanced product installation, including the practical application of SiC\* devices in inverters.

For example, we are adapting multi-cell monitoring ICs manufactured in-house for battery ECUs, thereby enabling the highly precise estimation of battery capacity. By doing so, we are able to increase battery capacity by approximately 2%, thereby achieving longer driving distances for electric vehicles.





#### \* Silicon carbide

By utilizing SIC in semiconductors, we expect to significantly lower electricity loss compared with conventional silicon semiconductors.



Multi-cell monitoring ICs (ASIC)

Battery ECU



### The Value We Aim to Offer Society

As we enter into a diverse mobile society, we will leverage the environmental technology of electrification to contribute to the lifestyles of people and society as a whole. To that end, we will promptly develop and supply electric systems and products that are crucial to electrification as well as contribute to their widespread adoption.

Yukihiro Shinohara Head of Electrification Systems Business Group

## MOBILITY SYSTEMS



Realizing a society in which all people can move comfortably and with peace of mind through a three-way harmony between people, vehicles, and society (Quality of Mobility)

### **Business Activities**

- Development and provision of electronic systems, services, and platforms that support all aspects of mobility
- Development and manufacture of advanced safety and automated driving products, such as millimeter-wave radar sensors, vision sensors, driver status monitors, and airbag systems; and connected cockpit products, such as telematics control units, vehicle-to-vehicle and road-to-vehicle communication devices, head-up displays, meters, and cockpit systems

### Strengths

- We possess a broad range of technologies that are essential to realizing advanced driver assistance systems (ADAS) and automated driving (AD). These include road environment recognition, human machine interface (HMI), and connected technologies. We are also able to undertake the development of products that draw on the comprehensive strengths of these technologies.
- By melding the unique value and performance of in-vehicle products with IT products, we are able to earn a level of trust with our customers that encourages them to continue to use our products with peace of mind. We are also able to develop products with outstanding levels of security to ensure the safety of our customers.

### Main Products





Vision sensors

Millimeter-wave radar sensors



Integrated cockpit system (center display, combi nation meter, HMI control unit) Instrument panel inside a Subaru Legacy

### Business Strategy Growth Targets

We will boost sales through the introduction of highly competitive, next-generation products with the aim of capitalizing on growth in the automated driving and connected car markets. In addition, with the progression of connected technologies, we will expand our business in not only the in-car domain but also the out-car domain and new domains that connect in-car and out-car domains. Through these efforts, we will realize growth that surpasses our Companywide sales growth targets.

### Profitability

To address the increase in the number of manhours to develop software brought about by the increase in the size of systems, we will work to enhance the efficiency of our platform development, thereby boosting our profitability.

#### Differentiation

We will offer new products that leverage such strengths as our collaborative development in the technological fields of road environment recognition, HMI, information and communications, and vehicle motion control, as well as the unique quality and performance of our in-vehicle products, which we cultivated over many years in various domains, including the out-car domain.

### Organizational Capabilities

To respond to the rapid evolution of automated driving and connected cars, we will carry out a full-scale in-house shift toward these technologies and recruit human resources specializing in IT. Additionally, we will actively pursue alliances with optimal partners and work to secure the necessary technologies and talent. In these ways, we will strengthen and accelerate our development capabilities.



### Progress in Fiscal 2019

### Increase in Revenue Owing to the Impact of Newly Consolidated Subsidiaries and Expanded Sales of Accident Prevention and Safety Products

In fiscal 2019, revenue for mobility systems rose 26.9% year on year (29.2% on an actual basis\*), to ¥914.0 billion owing to the increased rate of installment of accident prevention and safety products, expanded sales of display products in Japan and North America, and the impact of making DENSO TEN Limited a newly consolidated subsidiary.

\* Excludes the impact of exchange rates and other factors



### **Progress of Business Strategies**

Introducing Next-Generation Accident Prevention and Safety Products and Strengthening Development through Alliances To achieve our growth targets, we developed and launched a new, world-first vision sensor and millimeter-wave radar sensor geared toward widespread application. These sensors help prevent nighttime collisions with pedestrians and cyclists and have been installed in Toyota vehicles. We expect their installation to expand further going forward.

Additionally, in the growing market of China, we established Denso Kotei Automotive Electronics (Wuhan) Co., Ltd., a joint venture with Wuhan KOTEI Informatics Co., Ltd. Through this joint venture, we will commercialize next-generation digital meters that meet local needs.

For the realization of automated driving, we brought together the technological insight of four companies (Aisin Seiki Co., Ltd., ADVICS Co., Ltd., JTEKT Corporation, and DENSO CORPORATION) to establish J-QuAD DYNAMICS, a joint venture that develops integrated control software that enables automated driving and controls vehicle operation, and provides this software to car manufacturers in Japan and overseas.

### Resolving Social Issues through Our Businesses

Launching Driver Status Monitors That Can Be Retrofitted

Serving as a safety product that helps reduce traffic accidents for commercial vehicles such as trucks and buses, we launched a driver status monitor that can be retrofitted in vehicles that have already been sold. This recently launched product monitors a driver's status, including inattention, sleepiness and lack of



due diligence, based on pictures of a driver's face taken from an interior camera. Depending on the driver's status, this safety product alerts the driver by voice. Accidents caused by heavyduty commercial vehicles such as trucks and buses can easily cause enormous damage. At the same time, most of these vehicles have been in operation for many years, making it difficult to install and promote the widespread use of the latest safety equipment. As this new product can be retrofitted in vehicles that have already been sold, it can help accelerate the large-scale installation of safety equipment in heavy-duty commercial vehicles, thereby reducing accidents caused by such factors as drivers not keeping their eyes on the road.



Driving status monitors that can be retrofitted



### The Value We Aim to Offer Society

By combining advancements from the perspective of integrated systems, including sensors, semiconductors, ECUs, and platforms, and developments from the perspective of vehicles and end-users, we will pursue new value in the form of eliminating traffic accidents and traffic congestion. Through these efforts, we will contribute to the realization of a society in which all people can move comfortably and with peace of mind (Quality of Mobility).

Hirotsugu Takeuchi Head of Mobility Systems Business Group

# ELECTRONIC SYSTEMS



Driving the industry through electronic technologies to realize a mobile society with electrification and automated driving

### **Business Activities**

- Development and manufacturing of powertrain control computers, body control computers, and other electronic devices
- Development and manufacturing of microelectronic devices such as power semiconductors, semiconductor sensors, and ICs
- Development and manufacturing of acoustic vehicle alerting system and buzzers

### Strengths

- Extensive product lineup in the field of in-car electronics and development capabilities in elemental technologies
- Advanced technological strengths capable of in-house semiconductor manufacturing
- Development capabilities in vertical integration of semiconductors\* that satisfy individual product needs
- $^{\ast}$  DENSO proprietary integrated semiconductor development, from semiconductors to ECUs and actuators

### Main Products





Powertrain electronic control units

Body control computers



Power cards



Semiconductor sensors

Acoustic vehicle alerting systems

### Business Strategy Growth Targets

In addition to our combustion-based businesses, we will promote businesses related to electrification, advanced safety, and automated driving. To support such businesses, we will develop products that anticipate the needs of the automobile manufacturing market. Also, for our global customers, we will provide a structure that allows for the development of apps to be completed on a local basis. We will also make concerted efforts to enhance the competitiveness of our ECUs, semiconductors, and sensors, which provide us with a source for realizing differentiation. In these ways, we will realize sustainable growth and establish a competitive position in the in-car electronics field.

### Profitability

Rather than develop software for each vehicle on an individual basis, we will establish a function-specific software development structure and work to standardize this structure. By doing so, we will enhance the efficiency of our development efforts.

### Differentiation

We will enhance highly differentiated technologies through a diverse range of partnerships, including with manufacturers of consumer products, research institutions, and universities, in addition to forming business alliances and establishing industry standards, thereby speeding up the pace of our development. Also, by further fleshing out our current development themes, we will create world-first and regional-based technologies.

#### Organizational Capabilities

We will dramatically improve development processes, enhance efficiency, and accelerate management.



### Progress in Fiscal 2019

### Increase in Revenue Due to a Rise in Vehicle Production and the Impact of Newly Consolidated Subsidiaries

In fiscal 2019, revenue for electronic systems rose 3.9% (7.1% on an actual basis\*), to ¥658.2 billion, owing to the rise in vehicle production in Japan and Asia and the impact of making DENSO TEN Limited a newly consolidated subsidiary.

\* Excludes the impact of exchange rates and other factors



### Progress of Business Strategies

Strengthening Diverse Partnerships, Streamlining In-House Organizations, and Accelerating the Development of Differentiated Technologies

To speed up the pace of development for our differentiated technologies, we bolstered our relationships with business partners and enhanced our organizational capabilities by reorganizing internal development structures. Specifically, we invested in eSOL Co., Ltd., Infineon Technologies AG, and quadric.io, and carried out an additional investment in ThinCl Inc., thereby reinforcing both our semiconductor and software development capabilities. In terms of our internal organization, we reorganized our control ECU design division, bundling together product lineups, software, and hardware. By doing so, we streamlined and enhanced our organizational capabilities within the Company.

### Resolving Social Issues through Our Businesses Developing Test Chips with Next-Generation Semiconductor Technology IP (DFP) at the New Semiconductor Design Company NSITEXE, Inc.

In 2017, we established NSITEXE, Inc. with the aim of designing and developing IP, a key technology for next-generation semiconductors that support advanced safety and automated driving. We have been developing test chip boards that are equipped with data flow processors (DFP), newly created by NSITEXE,



and have commenced trial manufacturing of these boards. Using these test chip boards, we will promote verification tests regarding the effects of DFP technology, and by doing so, we will improve the performance of these chip boards.

Autonomous cars need to rapidly process and evaluate large volumes of data while consuming only a small amount of energy. We believe DFP technology will contribute to the realization of such cars.



DFP test chip circuit board



### The Value We Aim to Offer Society

We will thoroughly enhance our cross-organizational development of ECUs (head), semiconductors (brain), and sensors (eyes) in an effort to support innovation in automobiles. In addition, through the development of electronic elemental technologies that offer value optimized for the new mobile society, we will reduce environmental burden and contribute to the realization of a society in which people can move safely and with peace of mind.

Hiroyuki Ina Head of Electronic Systems Business Group

## NON-AUTOMOTIVE BUSINESSES: FA



Enhancing the productivity of the manufacturing industry and contributing to an improved quality of life with a commitment to our long-cultivated technologies

### **Business Activities**

- Development and manufacture of industrial equipment best exemplified by our automated equipment, modules, and industrial-use robots
- Development and manufacture of equipment for use by society, including handy terminals and QR and RFID payment and recognition solutions, and provision of services

### Strengths

Integration of technologies accumulated in the automotive field and unique technologies created in non-automotive fields

### Main Products



Automated modules



Collaborative robots



Barcode and 2D code handy terminals



Vertical articulated robots



loT data servers



QR solution services

### Business Strategy Growth Targets

We will commercialize lean automation in an effort to establish it as a business pillar in the non-mobility field.

### Profitability

Throughout society, we provide flexible, waste-eliminating lean automation created from our long-cultivated *Monozukuri* experience and techniques. By providing solutions packages by process and module rather than by individual equipment in a wide range of domains, we aim to realize further business expansion.

### Differentiation

By melding the automated technologies and improvement know-how of DENSO CORPORATION, the "user," with the core technologies of Denso Wave Inc., the "manufacturer," including robots, sensor verification systems, and QR codes, we will provide FA system products that can only be proposed through the unique perspectives of two DENSO companies. These FA system products will cater to the front-line operations of our customers.

### Organizational Capabilities

In May 2018, we established the internal Denso Wave Kariya Office, thereby strengthening collaborative development between DENSO's FA Business Unit and Denso Wave's Robot Business Unit. Going forward, we will deepen our collaboration with external partners that share the same desire to promote the widespread use of lean automation as we work to spur industrial innovation.

#### DENSO Integrated Report 2019 Overview by Product



### Progress of Business Strategies Commencing Sales of Collaborative Robots/ Expanding FA Centers

In December 2018, we commenced the sale of "COBOTTA," a collaborative robot. At 4kg, COBOTTA is a light-weight robot with an integrated controller that can be taken anywhere with ease. As a new category of robot, COBOTTA will help contribute to automation in not only industrial fields but also such diverse fields as research and development and education.

Additionally, in March 2019 we established the Kariya FA Center "Robot@Home" at our head office, which serves as a facility that provides support to customers in preparation of the introduction and use of robots so that they may operate our robots in the most effective manner possible. In April 2019, we established the Tokyo FA Center (Koto Ward, Tokyo) to serve as a similar facility. In these ways, we strengthened our customer support structure.



COBOTTA holding a test tube



Tokyo FA Center

## Resolving Social Issues through Our Businesses Improving Productivity in the *Monozukuri* Industry through FA System Products

The *Monozukuri* industry is facing global issues such as a declining workforce and higher labor costs in emerging nations. In light of these issues, the industry is entering into a major period of change. As a means to resolve the issue of labor shortages and reduce labor costs, we are providing highly efficient FA system products that thoroughly eliminate



wasteful procedures, thereby aiming to improve the overall productivity of the *Monozukuri* industry.

In October 2019, we will launch *D-Carry*, an inter-equipment transportation module package that leverages our core technologies (automation, robots, sensors, etc.) in an effort to contribute to the automation of the logistics domain, where there is a large degree of interaction between people. Going forward, we will gradually introduce FA system products as we strive to resolve social issues within the *Monozukuri* industry.



Inter-equipment transportation module package, D-Carry



#### The Value We Aim to Offer Society

With the aging and decline of the working population and the progression of workstyle reforms and other trends, the environment within the *Monozukuri* industry is undergoing dramatic changes. Leveraging our track record of introducing automation at 130 plants worldwide, we will propose a wide range of FA systems that cater to the front-line operations of our customers and contribute to the development of the *Monozukuri* industry as a whole.

Katsuhiko Sugito Head of FA Business Unit

#### DENSO Integrated Report 2019 Overview by Product

## NON-AUTOMOTIVE BUSINESSES: AGRICULTURE



Combining technologies and ideas to contribute to an enriched society where all people can live safely and with peace of mind

### **Business Activities**

Development, manufacture, and sale of agricultural production equipment and cloud services, in addition to the provision of after-sale services

### Strengths

Process design, front-line management, and sophisticated air-conditioning control and sensing technologies cultivated in the automotive field

## Main Products





Environmental control systems for greenhouse cultivation, *Profarm-Controller* 

Equipment for maintaining freshness, *futecc* 



Semi-closed greenhouse Profarm T-cube

### Business Strategy Growth Targets

Through the industrialization of agriculture, we will establish our agriculture business as a pillar in the non-automotive field. We have thus far launched Profarm-Controller, Profarm Monitor, and futecc as useful services for enhancing the efficiency of agricultural production and maintaining the freshness of fruits and vegetables. In May 2019, we commenced the sale of Profarm T-cube\* with the aim of further expanding our businesses. In addition, we are making efforts to develop and verify a model for next-generation horticultural facilities in large-scale greenhouses. Through these activities, we will incorporate the automated technologies and improvement know-how that we have cultivated in the automotive field with the aim of massproducing automated harvesting robots geared toward the creation of farms where all people can work comfortably. We will also establish highly efficient and sophisticated agricultural production systems that leverage AI and IoT. In these ways, we will deploy models for next-generation horticultural facilities in Japan and overseas in collaboration with partners from industry, government, and academia.

\* Profarm T-cube is a product developed in collaboration with DAISEN Co., Ltd. and Toyotane Co., Ltd. By installing the Active Ventilation System, which automatically controls the necessary air levels through an artificial ventilation method that uses ventilation fans, in greenhouse air-conditioning, Profarm T-cube realizes a stable cultivation environment that helps significantly improve yield quantity and quality.

#### Profitability

With an understanding of market changes, such as improvement in agricultural productivity and the shift toward largescale agricultural production in the future, we aim to provide commercial solutions for the entire food value chain, thereby further expanding our businesses.

#### Differentiation

We will draw on our technologies (sensor, control, robotic, and improvement technologies as well as management know-how, etc.) to the greatest extent possible. In this way, we will aim to develop practical agricultural technologies together with agricultural producers that possess cutting-edge cultivation technologies.

#### Organizational Capabilities

By further reinforcing the development structure of the AgTech Promotion Division, which was established in April 2018, and by forming alliances with partners that also aim for the industrialization of agriculture, we will lead innovation in the agricultural industry going forward.



## Progress of Business Strategies

Establishing a Joint Venture to Strengthen Business in the Field of Next-Generation Horticulture

Aspiring to establish and promote the widespread use of models for next-generation horticultural facilities in large-scale greenhouses, we established AgriD Inc. in August 2018 together with Asai Nursery, Inc. At AgriD, we are integrating our technologies for agricultural industrialization, such as environmental control and automation technologies, with Asai Nursery's industryleading domestic cultivation facilities and technologies for developing plant varieties. In this way, we are implementing agricultural management in large-scale greenhouses.

With the goal of building a comprehensive greenhouse support structure that covers everything from environmental control, cultivation, and maintenance, we established Triceed-Agri Co., Ltd. in December 2018 in collaboration with DAISEN Co., Ltd. and Toyotane Co., Ltd. In addition, we commenced the sale of *Profarm T-cube* in May 2019 through the sales outlets of DAISEN and Toyotane.



Rendering of a large-scale greenhouse at AgriD Location: Inabe City, Mie Prefecture; Scale: 4ha (cultivation area)

## Resolving Social Issues through Our Businesses Creating Models for Horticultural Facilities That

Resolve Issues in the Agricultural Industry As a means for resolving global social issues such as ensuring a stable food supply and addressing the declining agriculture workforce, we aim to create agricultural production systems (smart agriculture) that leverage robotic technologies and ICT and establish farmer-friendly working environments.



At AgriD, we are building new agricultural production systems using our process design,

front-line management, air-conditioning control, and sensing technologies, thereby contributing to a stable food supply. In addition, by introducing automated harvesting robots and automated transport robots, we are reducing the amount of work done by people and realizing working environments that make it easier for women, the elderly, and people with disabilities. Through these efforts, we are working to address the issue of the declining working population.







Rendering of a nighttime harvest



## The Value We Aim to Offer Society

To address the issue of food shortages and an insufficient number of workers to grow and harvest food, we will leverage the technologies for industrialization we possess in the automotive field to introduce smart farms, which utilize not only our long-cultivated greenhouse environment control technologies but also robotic technologies and ICT. In this way, we will provide new value and realize the sustainable growth of the agricultural industry.

Masahiko Ito Head of AgTech Business Development Division

# CORPORATE GOVERNANCE

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## Corporate Governance

### **Basic Stance**

The automotive industry is approaching a paradigm shift, which is said to occur once every 100 years. DENSO believes that establishing a corporate governance system is the key to overcoming this time of transition and maintaining and improving long-term corporate performance in a quickly changing marketplace. Based on its Basic Policies on Corporate Governance, which were formulated in June 2015, DENSO will implement highly sound, efficient, and transparent management going forward.



Please see the "Corporate Governance" section of DENSO's corporate website for more information. Basic Policies on Corporate Governance: https://www.denso.com/jp/ja/csr/pdf/EN\_Basic\_Policies\_on\_Corporate\_Governance.pdf

## Efforts to Improve Corporate Governance

With the aim of further accelerating its management in fiscal 2020, DENSO changed the composition of its management team to now include the chairman, the president & CEO, executive vice presidents, members of the Board, senior executive directors, and Audit & Supervisory Board members. We also changed the title of "senior executive director" to "senior executive officer." In these ways, we are enhancing the content of our strategic discussions on a Companywide basis. Accordingly, in addition to our existing Management Deliberation Meeting, we newly established the Management Strategy Meeting as a venue for holding discussions on Companywide strategies. Furthermore, we renamed the title of "executive director" to "executive officer," allowing our management team to be involved in business execution from an even closer position to our front-line operations. By doing so, we will increase the speed of our management's decision-making.

Also, with a view to enhancing the effectiveness of the Board of Directors, we position our approach to diversity as an urgent task. We have therefore appointed new management team members with a greater awareness of diversity in regard to gender and nationality.

Change in Corporate Governance Structure (Fiscal year)						(Fiscal year)
	2015	2016	2017	2018	2019	2020
Number of officers	52	50	51	53	56	28
Number of members of the Board	14	13	13	9	7	8
Number of outside directors	2	2	2	2	2	3
Number of female directors						1
Number of Audit & Supervisory Board members	5	5	5	5	5	4
Number of outside Audit & Supervisory Board members	3	3	3	3	3	2
Number of female Audit & Supervisory Board members						1
Basic Policies on Corporate Governance		June 2015 Formulated				
Separation of management and execution	<ul> <li>Separated and of for managemen (newly establish tion of business</li> </ul>	<ul> <li>2014         arated and clarified the roles between members of the Board, who are responsible management (decision-making and supervision), and senior executive directors why established position) and executive directors, who are responsible for the executive director" to "senior executive directors bointed outside directors     </li> <li>June 2016         Established the Officer Nomination and Compensation Advisory Council, comprising independent outside directors, as an ad-hoc committee that corresponds to the Nomination Committee and the Compensation Committee that corresponds to the Nomination Committee and the Compensation Committee that corresponds to the Nomination Committee and the Compensation the board     </li> </ul>				
Improvement of effectiveness			June 2016 <ul> <li>Hold annual interviews with those attending meetings of the Board of Directors to examine issues and measures for improvement (The results for interviews held in fiscal 2016 were announced in fiscal 2017.)</li> </ul>			

## Change in Corporate Governance Structure

## Corporate Governance System

#### Reason for Selecting Our Current Corporate Governance System

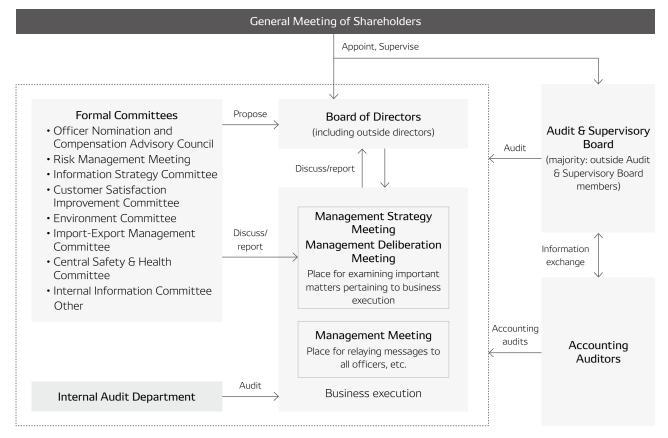
In addition to performing management decision-making that emphasizes *genchi genbutsu* (on-site verification), DENSO believes that it is important to build a system that can verify whether management decision-making has met shareholder expectations and whether there is a problem from the point of view 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 directors, as well as Audit & Supervisory Board members including outside Audit & Supervisory Board members, is most suitable.

#### Overview of System

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 corporate officer system that separates and clarifies the roles between members of the Board, who are responsible for management (decision-making and supervision), and executive vice presidents 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 executive vice presidents and senior executive officers 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.

#### Corporate Governance System



## 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 management policies and strategies.

The Board of Directors meets once a month, in principle, and is composed of 12 members: eight directors (including three outside directors), two inside Audit & Supervisory Board members, and two outside Audit & Supervisory Board members.

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 directors. Throughout the process of making important management judgments and decisions, the outside directors provide valuable advice from a perspective independent of business execution based on their expert insight and wide-ranging experience.

In fiscal 2019, the Board of Directors held 15 meetings, for which the director attendance rate was 96% and the Audit & Supervisory Board member attendance rate was 97%.

#### 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. The Company has also established the Management Meeting as a body for facilitating communication. These three bodies, together with the Board of Directors, are positioned as executive committees and are all chaired by the Company's president.

(1) Management Strategy Meeting and Management Deliberation Meeting

The Management Deliberation Meeting holds discussions on important matters pertaining to management overall (Companywide business plans, investment projects, important transaction projects, other important management-related matters), starting with the agenda items at meetings of the Board of Directors. In addition, the Management Strategy Meeting holds strate-gic discussions particularly from a medium- to long-term perspective.

Meetings of both bodies are attended by not only the president and executive vice presidents but also by the heads of each business group and functional department and the inside Audit & Supervisory Board members. In this way, the meetings provide a structure for engaging in multifaceted discussions.

Both meetings, in principle, meet every Monday. In fiscal 2019, the meetings met a total of 31 times.

### (2) Management Meeting

The Management Meeting shares information related to business execution with officers throughout the Company, including matters for resolution by the Board of Directors and matters for deliberation by the Management Deliberation Meeting. The Management Meeting strives to communicate and report information on projects that require swift action.

In principle, the Management Meeting meets once a month, and the meetings also involve the active participation of officers stationed overseas.

Audit System

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 directors' execution of their business duties through the exchange of information with the Internal Audit Department and internal control-related departments, as well as the Accounting Auditors, thereby fulfilling their management oversight function.

## Policy and Procedures for the Appointment of Directors and Audit & Supervisory Board Members

Policy	Nominate directors and Audit & Supervisory Board members from the viewpoint of strikir balance between diversity, experience, skills, and expertise so as to promote accurate and swift decision-making.			
Procedures	1 • The president and the director in charge of human resources 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 president and relevant directors then submit their selections to the Officer Nomination and Compensation Advisory Council, which consists of independent outside directors, to list the candidates for selection for the current fiscal year.			
	<ul> <li>Directors are selected based on an informal resolution by the Board of Directors and deliberation at the General Meeting of Shareholders.</li> <li>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> <li>The Officer Nomination and Compensation Advisory Council is chaired by the president and comprises the director in charge of human resources and outside directors.</li> </ul>			

#### Approach to Director Balance, Diversity, and Size

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 directors. 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.

### Analysis and Evaluation of the Effectiveness of the Board of Directors as a Whole

Once a year, DENSO holds individual interviews with all members who attend the meetings of the Board of Directors. These interviews are aimed at obtaining the frank opinions of attendees on the issues and areas for improvement regarding the operation of the Board of Directors, the agenda items discussed, and the process for making resolutions.

The issues and areas for improvement identified through these interviews are reported to the Board of Directors and shared between all members who attend Board meetings. By doing so, these interviews help enhance the effectiveness of the Board of Directors.

Fiscal 2019 Ev	Fiscal 2019 Evaluation of the Effectiveness of the Board of Directors (Held in March 2019)		
Results of Interviews	Due to the Company's continual improvements to the Board of Directors, the Board's operation was evaluated highly in such aspects as the number of meetings held, the length of meetings, and the prior distribution of relevant materials. Also, as the outside Audit & Supervisory Board members are provided explanations beforehand, the number of issues discussed at Board meetings has increased and the discussions held at these meetings have become livelier, centered on the independent officers.		
lssues	The Company received opinions stating the need for timely discussion regarding issues brought to light by the current state of global affairs and society as a whole. The Company also received opinions stating the need for more strategic discussions on such topics as the future social environment and the overall vision of the Company and the areas in which it operates. Also, in regard to materials, the Company identified that materials related to risk analysis tend to be insufficient. The Company also identified such issues as necessary for discussion including its overall business strategy when determining individual agenda items as well as the overall excess of content in its distributed materials.		
Measures for Improvement	<ul> <li>Based on the interview results, the Board of Directors will implement the following improvement measures after giving them sufficient consideration.</li> <li>Create a framework for open discussion at Board meetings, under which issues will be actively discussed</li> <li>Establish the Management Strategy Meeting in order to strengthen strategic discussion</li> <li>Establish a format for distributed materials and make their content simpler and easier to understand</li> </ul>		

## Outside Directors and Outside Audit & Supervisory Board Members

The Company has appointed three outside directors. To ensure that it can make better management decisions to improve performance and raise corporate value, the Company appoints people who have extensive knowledge about company management to be outside directors, who provide decision-making and oversight based on their knowledge. In addition, the Company has appointed two outside Audit & Supervisory Board members. In order to ensure the effectiveness of audits, we appoint people with an abundance of administrative and corporate management experience and who are experts in the fields of law, finance, and accounting to be outside Audit & Supervisory Board members. These outside Audit & Supervisory Board members audit the execution of business duties from a standpoint that is professional, neutral, and fair.

Outside Directors	Attend Reason for Appointment of Direc		
George Olcott*	George Olcott has managerial experience in foreign-capital companies, including his tenure as the head of a U.Kbased investment advisory company's Tokyo branch office. He also is a specialist in human resource development and corporate governance within global business management. The Company has appointed him as an outside director in the expectation that he will leverage his wealth of experience and considerable knowledge in academia and corporate management in the Company's management.	15/15	
Shigeki Kushida*	Shigeki Kushida is the president and representative director of Japan Securities Finance Co., Ltd. He has the experience at the Bank of Japan—Japan's central bank—of promoting activities that have led to the development and stability of the Japanese economy, filling the positions of Director-General and Executive Director. The Company has appointed him as an outside director in the expectation that he will provide guidance and opinions on the Company's decision-making based on his extensive expertise in the global monetary economy.	_	
Yuko Mitsuya*	Yuko Mitsuya is the representative director of SORA Corporation and the president of the Japan Basketball Association. She has an abundance of experience and knowledge in many fields, having long been involved in the management of several corporations and associations and in serving as an officer and committee member at several sports associations. The Company has appointed her as an outside director in the expectation that she will provide guidance and opinions on the Company's decision-making based on her wealth of experience in corporate management.		
Outside Audit & Supervisory Board Members	Reason for Appointment		
Yasuko Goto*	Yasuko Goto serves as a director and audit and supervisory committee member at Kyushu Railway Company. She 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 compliance with laws as she currently serves in such roles as director and audit and supervisory committee member at Kyushu Railway Company and external audit and supervisory committee member at Kyushu Railway Company and external audit and supervisory committee member at Kyushu Railway Company and external audit and supervisory Board member in the expectation that she will leverage her extensive experience and insight in the Company's auditing activities.		
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.		

\* Independent officers

## Criteria for Judging the Independence of Outside Directors and Outside Audit & Supervisory Board Members

With respect to the independence of outside directors 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 director and Audit & Supervisory Board member are independent officers.

#### Executive Compensation

#### Policies

• Compensation for Company directors comprises fixed monthly compensation and a variable bonus based on Company performance. Compensation for outside directors and Audit & Supervisory Board members comprises solely fixed monthly compensation in order to ensure independence from management.

- The level of compensation is deemed appropriate for the Company based on economic and social conditions and trends at other companies.
- In particular, bonuses are determined based on operating profit after taking into account dividends, employee bonuses, trends at other companies, medium- to long-term performance, and records of past payments.
- The Company does not have a system in place for retirement benefits and stock options.

Directors	Monthly Compensation	Monthly compensation is decided by a resolution of the Board of Directors after consulting with the Officer Nomination and Compensation Advisory Council, and is an amount within a range established by a resolution of the General Meeting of Shareholders (total amount for directors: ¥80 million/month).		
	Bonuses	Bonuses to each director are decided by a resolution of the Board of Directors after consulting with the Officer Nomination and Compensation Advisory Council and receiving approval of the resolu- tions of the Board of Directors and General Meeting of Shareholders concerning total payment to the directors.		
Audit & Supervisory Board members	Compensation Amount	Compensation is decided by consultation with Audit & Supervisory Board members after consulting with the Officer Nomination and Compensation Advisory Council, and is an amount within a range established by a resolution of the General Meeting of Shareholders (total amount for Audit & Supervisory Board members: ¥15 million/ month).		

#### Compensation of Directors and Audit & Supervisory Board Members

Position	Total Compensation (¥ million)	Total Compensation by Type (¥ million)		Directors/Audit & Supervisory Board
		Base	Bonuses	Members
Directors (excluding outside directors)	460	284	176	8
Audit & Supervisory Board members (excluding outside Audit & Supervisory Board members)	96	96	_	3
Outside directors	73	73		5

Notes:

1. The above amounts include those for Nobuaki Kato, Yoshikazu Makino, and Koji Kobayashi, who retired from their position as director, as well as Masato Iwase, who resigned from the post of Audit & Supervisory Board member, at the conclusion of the 95th Ordinary General Meeting of Shareholders held on June 20, 2018.

2. The upper limit on base compensation is as follows:

(1) Director compensation, etc.: ¥960 million per year (as determined by resolution at the 84th Ordinary General Meeting of Shareholders held on June 26, 2007)

(2) Audit & Supervisory Board member compensation, etc.: ¥180 million per year (as determined by resolution at the 91st Ordinary General Meeting of Shareholders held on June 19, 2014) 3. In regard to ¥176 million in bonuses paid to directors, the payment of bonuses was established by a resolution at the 96th Ordinary General Meeting of Shareholders held on June 26,

2019, and this resolution applied to five directors.

## Strengthening Relationship with Shareholders

### Securing the Rights and Equal Treatment of Shareholders

DENSO provides timely and accurate information needed for shareholders to exercise their rights. At the same time, the Company strives to establish an environment in which shareholders can exercise their voting rights and gives due attention to assuring the rights and equal treatment of various substantial shareholders, including foreign and minority shareholders.

### Dialogue with Shareholders

DENSO will endeavor to realize good communication with its shareholders and investors by providing enhanced information that encompasses management strategies and financial information as well as by actively holding dialogues with the participation of Board members, executive vice presidents, and executive officers in charge. The results of the dialogues are reported to the Board of Directors and the opinions of shareholders are utilized in the Company's management.

### Strategic Shareholdings

#### Basic Stance

DENSO aims to overcome this period of dramatic change through technological development made possible by maintaining and strengthening its relationship with business partners and pursuing collaboration with them. To that end, the Company holds the number of strategic shareholdings necessary for its business strategies toward realizing sustainable growth.

## Details of Examination to Determine the Appropriateness of Strategic Shareholdings

Every year, the Board of Directors comprehensively determines the appropriateness of crossshareholdings by examining the significance and benefit of strategically holding each individual stock as well as whether or not the risk of strategically holding said stock is commensurate with capital cost. 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.

### 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 Investments

	Number of stocks			
	Balance sheet amounts	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	86 stocks:	5 stocks:	1 stock:	
	¥50,675 million	¥32,268 million	¥452 million	
Shares other than unlisted shares	43 stocks:	3 stocks:	1 stock:	
	¥461,607 million	¥6,954 million	¥1,010 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.

### **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.

### Internal Reporting System

The DENSO Group has set up internal reporting systems at its Japanese and overseas headquarters, as well as at 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. (Number of consultations and incidents reported: 89 in fiscal 2019) DENSO Integrated Report 2019 Corporate Governance

## Messages from the Outside Directors

## Evolving into a Systems Supplier That Can Propose Value from the Perspective of Automobiles and the Mobile Society

Shigeki Kushida Outside Director

## Leveraging My Financial and Economic Expertise to Respond with a Sense of Speed

For many years, I worked at the Bank of Japan, where I analyzed economic trends and financial systems and examined the necessary policies and initiatives for realizing financial and economic stability. From that experience, I learned the importance of ascertaining financial and economic trends from both micro and macro perspectives, which act as the backdrop of such trends, as well as the importance of formulating the necessary policies to address such trends and implementing those policies in specific business operations.

The automotive industry is approaching a paradigm shift. Accordingly, it is crucial to accurately understand the changes occurring in the business environment, which result from global and various other factors, and thoroughly examine and carry out the necessary response to these changes with a sense of speed. To that end, I believe that there are many ways I can leverage my experience to contribute to the Company.

## Continuing to Serve as a Driving Force That Creates New Customer Experiences

DENSO is a world-leading automotive parts manufacturer that boasts advanced technological and production capabilities as its strengths. To respond to CASE and MaaS, DENSO is working to significantly enhance the technologies it is lacking through acquisitions and alliances. At the same time, the



Profile

Shigeki Kushida currently serves as representative executive officer & president of Japan Securities Finance Co., Ltd. He is expected to leverage his experience and insight gained from many years at financial institutions. He assumed his current role at DENSO in 2019.

Other major positions held • Representative Executive Officer & President

Japan Securities Finance Co., Ltd.

Company is making large-scale organizational reforms and striving to establish a structure that will allow it to accelerate the speed of development. Going forward, I believe DENSO needs to continue to be an irreplaceable partner to automobile manufacturers. I also believe that DENSO must serve as a player that takes on a major role in realizing a mobile society. To become such a presence, it is imperative that DENSO evolve into a systems supplier that can propose value from the perspective of automobiles and the mobile society.

It is impossible to accurately predict the timing of future changes that will lead to a mobile society or the process that these changes will follow. However, it is important that DENSO prepare itself for future changes to the greatest extent possible. At the same time, it is a crucial task for DENSO to continue to serve as a driving force that creates new customer experiences by leveraging the ability to play a major role within the process of change.

## Contributing to the Sustainable Development of DENSO with a Focus on the Direction of Changes

The future mobile society will be shaped not only by the efforts of car manufacturers and transportation service providers in the automotive industry but also by the response to such efforts by customers and society from the perspective of safety, the environment, and cost. While focusing on the direction of changes, including information communicated externally, I hope to contribute to the sustainable development of DENSO going forward.

## Change and Reform from Strengthening Governance

Yuko Mitsuya Outside Director

## Identifying Issues from an "If Something Seems Strange, Then It Is Strange" Perspective

I am currently leading organizational reforms as the president of the Japan Basketball Association (JBA). Four years ago, the JBA received a ban from the International Basketball Federation (FIBA) due to issues stemming from its lack of governance. To remove this ban, the JBA made concerted efforts to recruit personnel that were free of constraints, and I joined the JBA as such a person. Upon my appointment, I helped identify issues from an "if something seems strange, then it is strange" perspective and worked to formulate a vision and philosophy aimed at establishing a path forward without being constrained by the past. In this way, I created an action plan together with the people working on the front lines. In the past three years, while there have been various events that have caused some confusion, I believe we have gradually made progress with reforms at the JBA through strengthened governance. I also believe that this progress has led to a stronger organization and stronger players.

Leveraging this experience, as well as the expertise I have gained in my many years being involved in human resource development, I will help contribute to DENSO's efforts to strengthen its organization.



#### Profile

Yuko Mitsuya currently serves as president of the Japan Basketball Association. She is expected to leverage her broad range of experience in many fields, including serving as an officer and committee member at several manufacturing and sports associations. She assumed her current role at DENSO in 2019.

- Other major positions held • President, Japan Basketball Association
- Representative Director, SORA
   Corporation
- Outside Director,
- The Fukui Bank, Ltd. • Outside Director.
- JXTG Holdings, Inc.

## Gaining a Great Impression from the Strong Communication between the directors and from the Approach of Employees Who Take Pride in Their Work

DENSO recently increased the number of outside directors, which has already led to the lively exchange of opinions. Moreover, all of DENSO's directors, starting with the president, are very good listeners, facilitating strong communication between them and productive meetings of the Board. I am also extremely impressed with the Company's employees, who earnestly approach their work and take pride in the roles that they play.

## Contributing to Strengthening DENSO's Organization as a "Stranger" in a Good Sense

At organizations in this industry and other industries, there is a tendency to be unaware of the fact that past successes have actually become a major cause of obstructing future growth. As a result, such an organization settles for making improvements over the necessary full-scale reforms, making them unable to formulate an appropriate growth strategy.

In such a case, a third party's or stranger's presence is crucial to preventing an organization's point of view from becoming overly narrow. In a good sense, I aim to be that "stranger" who will help DENSO strengthen its organization.

## Directors and Audit & Supervisory Board Members

(As of June 26, 2019)

## Directors



#### President & CEO 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, DENSO CORPORATION (current position)



## Executive Vice President

Member of the Board,

Senior Executive Officer Shoji Tsuzuki

(Date of birth: April 29, 1959) 1983 Joined DENSO CORPORATION

(current position)

Yasushi Yamanaka

(Date of birth: March 10, 1957)

1979 Joined DENSO CORPORATION 2005 Executive Director, DENSO CORPORATION 2014 Senior Executive Director, DENSO CORPORATION 2015

Executive Vice President, DENSO CORPORATION (current position)

Executive Director, DENSO CORPORATION Director, Member of the Board, Senior Executive Officer, DENSO CORPORATION



#### Executive Vice President Hiroyuki Wakabayashi

## (Date of birth: January 15, 1956)

- 1979 Joined DENSO CORPORATION 2006 Executive Director, DENSO CORPORATION
- 2013 Senior Executive Director, Member of the Board, DENSO CORPORATION
- 2014 Director, Member of the Board, Senior Executive Director, DENSO CORPORATION 2015 Senior Executive Director,
- DENSO CORPORATION
- 2016 Director, Member of the Board, Senior Executive Director, DENSO CORPORATION
- 2017 Executive Vice President 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)



## Outside Director Independent Officer

- George Olcott
- (Date of birth: May 7, 1955)
- 1986 Joined S.G. Warburg & Co., Ltd. 1991 Director, S.G. Warburg & Co., Ltd.
- 1993 Executive Director, Equity Capital Market Group, S.G. Warburg Securities London
   1997 Head of Tokyo Branch, SBC Warburg
   1998 Vice President, LTCB-UBS-Brinson Asset Management
- 1999 President, UBS Asset Management (Japan) President,
- Japan UBS Brinson 2000 Managing Director, Equity Capital Market, UBS Warburg Tokyo 2001 Judge Business School, University of Cambridge

## 2005 FME Teaching Fellow, Judge Business School, University of Cambridge 2008 Senior Fellow, Judge Business School, University of Cambridge



#### Outside Director Independent Officer Shiqeki 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 Entrusted Branch Manager, Nagoya Branch and Osaka Branch, Bank of Japan

#### Outside Director 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)

- Current position)
   2014 Director, Member of the Board,
   DENSO CORPORATION (current position)
   2015 Outside Director, The Dai-ichi Life Insurance Company, Limited
  - 2016 Outside Director, BlueOptima Limited (current position)2016 Outside Director, Dai-ichi Life Holdings, Inc. (current position)

2010 Outside Director, NKSJ Holdings, Inc.2010 Project Professor, Research Center for Advanced Science and

Technology, The University of Tokyo 2014 Guest Professor, Keio University Faculty of Business and Commerce (current position) 2014 Outside Director, Hitachi Chemical Company, Ltd. (current position)

- 2016 Outside Director, JP Morgan Japanese Investment Trust plc (current position)
- 2017 Senior Advisor, Aflac Life Insurance Japan Ltd.
- 2019 Advisor, Japan Securities Finance Co., Ltd.2019 Representative Executive Officer & President,
- Japan Securities Finance Co., Ltd.
- 2019 Director, Member of the Board, DENSO CORPORATION (current position)
- 2018 Representative Director, SORA Corporation (current position)
- 2018 Outside Director, The Fukui Bank, Ltd. (current position)
- 2019 Director, Member of the Board, DENSO CORPORATION (current position)
- 2019 Outside Director, JXTG Holdings, Inc. (current position)
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2006 Outside Audit & Supervisory Board Member, TOYOTA BOSHOKU CORPORATION

2008 Outside Director, Nippon Sheet Glass Co., Ltd.

- 2009 President, Toyota Motor Corporation (current position)
- 2018 Chairman, Japan Automobile Manufacturers Association, Inc. (current position)
- 2019 Director, Member of the Board, DENSO CORPORATION (current position)

2010 Executive Director, DENSO CORPORATION 2016 Senior Executive Director, 2018 DENSO CORPORATION 2018 Director, Member of the Board, Senior 2019

Audit & Supervisory Board Members



#### Standing Audit & Supervisory Board Member Atsuhiko Shimmura

(Date of birth: June 28, 1957)

- 1980 Joined DENSO CORPORATION
- 2009 Executive Vice President, DENSO International America, Inc.
- 2014 Director, Corporate Planning Division, DENSO CORPORATION
   2014 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 Components Business Unit, Powertrain Components Business Planning Department), 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

- 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)
- 2004 Outside Auditor, ROHM Co., Ltd.
- 2005 Outside Director, Sumisho Grainger Co., Ltd.
- (currently MonotaRO Co., Ltd.) (current position) 2006 Supervisory Director, MID REIT, Inc. (currently MCUBS MidCity Investment Corporation) (current position)
- 2009 Outside Corporate Auditor, Yamaha Corporation
- 2010 Outside Director, Yamaha Corporation
- 2015 Outside Corporate Auditor, ASMO Co., Ltd. (currently DENSO CORPORATION)
   2015 Outside Corporate Auditor, LEGAL CORPORATION
- (current position) 2016 Outside Corporate Auditor, Toyo Aluminium K.K.
- (current position) 2019 Outside Audit & Supervisory Board Member, DENSO CORPORATION (current position)

## Expertise and Abilities That Can Be Leveraged in the Management of the Board of Directors and Audit & Supervisory Board

Koji Arima	Excellent management prowess and leadership	
Yasushi Yamanaka	Expertise and experience in leading technology departments	
Hiroyuki Wakabayashi	Managerial experience in production and operating departments as well as knowledge in advanced fields such as automated driving	
Shoji Tsuzuki	Knowledge obtained through experience in a broad range of business reforms conducted in sales and marketing departments as well as functional departments	
Akio Toyoda	Abundant experience and extensive insight as a leader of the automotive industry	
George Olcott	Relevant expertise as well as abundant experience and deep insight related to corporate management	
Shigeki Kushida	Wealth of experience leading activities that developed and stabilized the Japanese economy and extensive insight on the global monetary economy	
Yuko Mitsuya	Abundant experience in corporate management and many other fields, including as an officer and committee member at several sports associations	
Atsuhiko Shimmura	Management experience at the North American headquarters, in addition to extensive knowledge and experience within Company business divisions	
Motomi Niwa	Managerial experience at overseas subsidiary and extensive expertise in functional and operating departments	
Yasuko Goto	Broad range of experience in administrative and corporate management as well as in-depth audit knowledge in finance, accounting, and compliance	
Haruo Kitamura	High level of insight related to accounting as a certified public accountant and vast experience in corporate management	

- 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
     Solution State of Committee Member,
     Shiseido Company, Limited (current position)

## Compliance

### **Basic Stance**



**Promotion Structure** 

**Specific Initiatives** 

Group's observance of all applicable national and regional laws and all Group 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

We believe that key actions to earn the trust and understanding of society pertain to the DENSO

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.

The DENSO Group has created a global structure for promoting compliance while keeping its organizational structure sensitive to the characteristics of each region, introducing and administering a reporting system, and training employees. In 1997, the DENSO Group established the Corporate Ethics Committee (now a part of the Management Deliberation Meeting), headed by the director in charge of compliance, and created the Compliance Committee and other committees to coordinate regional and global compliance activities, while putting Compliance Leaders and other managers in charge of promoting compliance.

On a regular basis, our legal departments in Japan, North America, South America, Europe, China, Southeast Asia, India, and South Korea share and discuss information and issues related to compliance.

### Inspection and Improvement of Activities

The DENSO Group 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 top management, and steps are taken to prevent a recurrence of the issue. For example, DENSO 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 Antimonopoly Act

U.S. subsidiary DENSO International America, Inc. was investigated by the U.S. Department of Justice in February 2010. Recognizing the gravity of the situation, the DENSO Group has since then created the Antimonopoly Act Compliance Committee, chaired by the representative director, to ensure strict compliance with the Antimonopoly Act. Under the guidance and supervision of this committee, we have endeavored to reinstitute strict compliance with the Antimonopoly Act across the entire DENSO Group by enhancing awareness and education about relevant rules and ensuring strict adherence to laws and regulations. As a result, we are now in full compliance with laws and regulations. The DENSO Group is keen to restore confidence while further strengthening its compliance structure in accordance with the Antimonopoly Act.

## 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 director. The committee takes the lead in and provides supervision on the formulation of bribery prevention rules and the promotion of employee awareness and educational activities through e-learning. We also have CSR 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 DENSO Group.

#### Response to Tax Compliance

The DENSO Group has established the "Global Tax Policy" to meet its social responsibility through proper tax payments. Under this policy, we promote tax-related educational activities for our employees and abide by rules for cross-border transactions. Through such efforts, we will proactively work to improve tax compliance on a Groupwide basis.



Please see the "Sustainability Information" section of DENSO's corporate website for more information Compliance: https://www.denso.com/global/en/csr/ governance/compliance/

Please refer to our corporate website for information on the DENSO Group Global Tax Policy. https://www.denso.com/global/en/csr/ governance/compliance/ tax\_policy\_en.pdf

## Risk Management

Basic Stance	In keeping with the global expansion of business, the DENSO Group is striving to strengthen risk manage- ment to help minimize risk. Specifically, the emergence of circumstances with the potential to cause damage to corporate management are classified as risks (situations in which risks have not yet been realized) and crises (emergency situations in which risks have already been realized). For the former, efforts focus on thwarting risks before they have the chance to manifest themselves; for the latter, DENSO strives to make an initial response as well as a response for restoring business operations in a prompt and appropriate manner.
Promotion Structure	DENSO regularly confirms the improvements made to its risk management structure and framework via the Risk Management Meeting. Taking into consideration the conditions of the Company and trends in the external environment, DENSO discusses and determines the direction of important activities to compre- hensively manage Groupwide risks and crises. In addition, DENSO has created the Crisis Communication Manual in order to respond promptly and accurately in the event of a crisis. In these ways, the Company is able to flexibly address crises and minimize the damage they may cause.
Specific Initiatives	Ascertaining Risks and Clarifying Response DENSO makes efforts to constantly ascertain the risks it faces and manage these risks from the perspec- tives of damage mitigation and business continuity. The Company has selected 42 risk items related to life, credit, business activities, and property based on frequency of occurrence and level of impact. 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. DENSO

#### Risk Management Items (Excerpts)

Reason	Risk Items		
Internal factors (Accidents and mistakes)	Environmental pollution and abnormalities, disasters (work-related accidents, fires, and explosions), recalls, production obstacles (difficulties with energy supply, etc.), information security-related accidents, personnel and work-related incidents (human rights issues, labor issues, and overseas offices), mental health issues, traffic accidents, errors in internal management of information, etc.		
Internal reasons (Legal violations)	Violations of the Antimonopoly Act, tax evasion, inappropriate employee dispatch or use of contract work, violation of product laws and regulations, violation of anti-bribery laws, etc.		
External factors (Natural disasters)	Earthquakes typhoons concentrated heavy rains lightning strikes etc		
External factors (Political and social)	Product liability litigation, fluctuating exchange rates, supplier-related issues, incidents or other emergencies (wars, terrorist attacks, abductions, epidemics), etc.		

revises its 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.

#### Strengthening Natural Disaster Risk Response (Formulation of BCPs\*)

In the near future, a massive earthquake is expected to strike Japan. Also, in addition to the progression of global warming, there is concern that climate change will lead to an increase in the frequency of natural disasters. In the event of a natural disaster, it is of the utmost importance that we protect the lives of our employees. At the same time, in the event a disaster were to disrupt our production and supply activities, it is imperative that we work to swiftly restore operations and minimize the damage to our businesses. At DENSO CORPORATION and domestic Group companies, we have commenced the formulation of BCPs from the perspective of business continuity management. We are also taking action in such ways as creating emergency situation manuals and promoting countermeasures for reducing disasters. Going forward, we will strengthen our response to risks from earthquakes and other natural disasters on a Groupwide basis.

\* BCPs: Business continuity plans. In the event that operations are interrupted by an earthquake or other large-scale natural disaster, BCPs are designed to minimize damage to the Company's business by aiming to restore operations within a targeted timeframe.

**Strengthening Information Security Structure Following the Change toward a "Connected Society"** Following the advancement of such technologies as automated driving and IoT, cyber security risks related to vehicles and production facilities have become a serious issue.

To ensure that vehicles can be used safely and with peace of mind, DENSO is developing technologies that protect in-vehicle products, such as advanced driver assistance systems and automated driving, from cyberattacks. The Company is also moving forward with the establishment of unique frameworks for steadily installing these technologies in vehicles. Also, DENSO is setting up security measures for its internal networks, production lines, and other facilities and is working to secure its information assets and realize a steady supply of products to its customers.



Please see the "Sustainability Information" section of DENSO's corporate website for more information. Risk Management: https://www.denso.com/global/en/csr/ governance/riskmanage/ 89 Facts & Figures

DATA

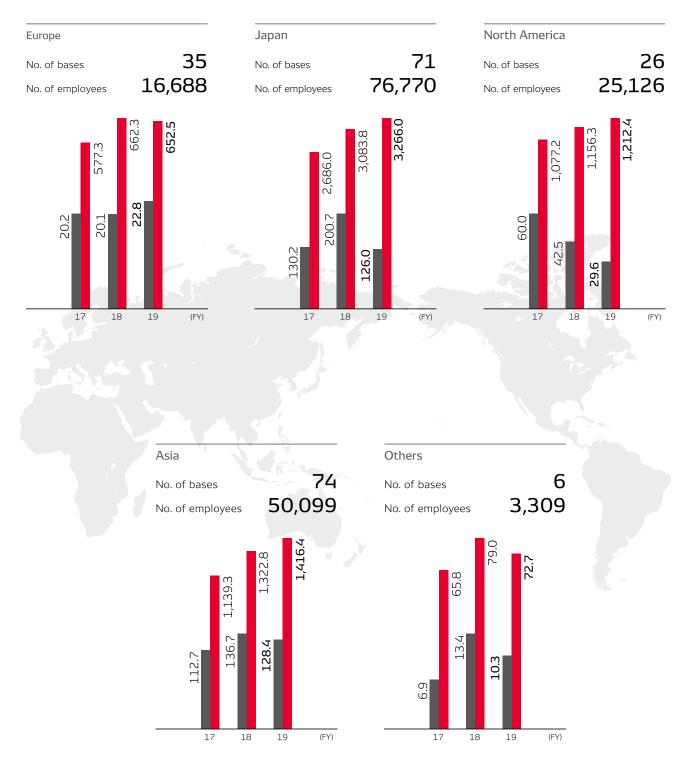
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CORPORATE



## Facts & Figures

## Overview by Geographical Segment

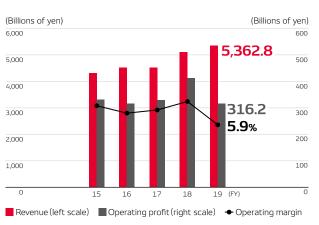


Revenue (Billions of yen)

Operating profit (Billions of yen)

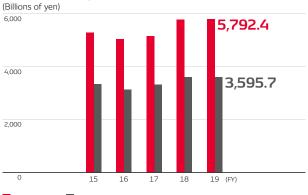
Notes: 1. The number of employees excludes personnel dispatched to consolidated companies but includes personnel on loan from consolidated companies. Temporary staff are also excluded from the number of employees. 2. The figures for revenue and operating profit include adjustments between segments.

## Financial Highlights

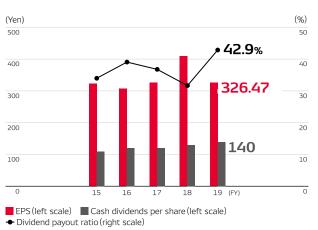


Revenue / Operating Profit / Operating Margin

Total Assets / Equity Attributable to Owners of the Parent Company

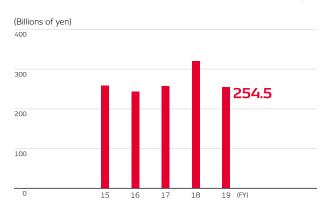


Total assets Equity attributable to owners of the parent company

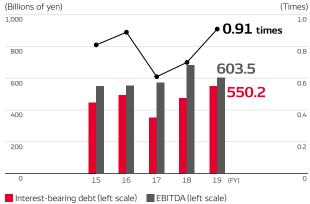


EPS / Cash Dividends per Share / Dividend Payout Ratio

## Profit Attributable to Owners of the Parent Company

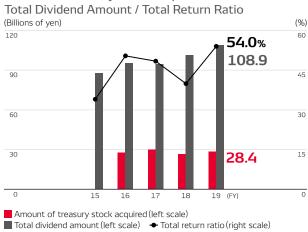


Interest-Bearing Debt\*1 / EBITDA\*2 / Interest-Bearing Debt to EBITDA Ratio



✤ 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 and long-term bonds \*2 EBITDA = Operating profit + Depreciation

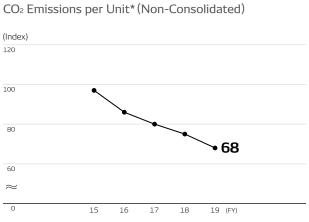


Amount of Treasury Stock Acquired /

Please find more details on financial information via the link below.

https://www.denso.com/common/confidential-published/global/en/investors/library/annual\_report/documents/2019-financial-section.pdf

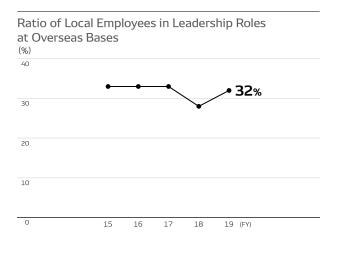
## Non-Financial Highlights

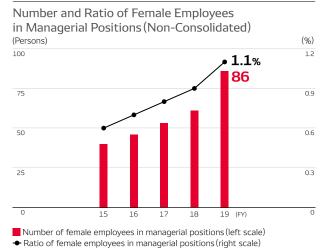


(%) 50 40 40 30 20 10 0 15 16 17 18 19 (FY)

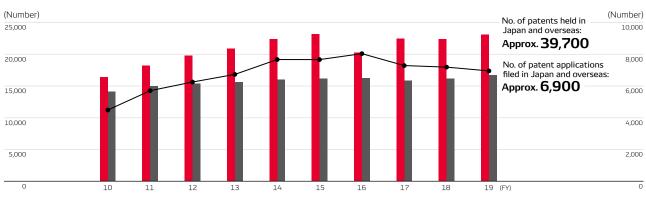
In-House Power Generation Ratio (Non-Consolidated)

\* Per unit =  $CO_2$  emissions/Revenue (indexed to fiscal 2013 as 100%)





## 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.

## 10-Year Data

				Japanese GAAP
	(FY)	2010	2011	2012
Financial Data	Revenue Total	2,976.7	3,131.5	3,154.6
	By Region* <sup>1</sup> Japan	1,553.5	1,548.2	1,640.0
	North America	526.7	528.9	504.1
	Europe	402.0	389.6	373.2
	Asia	494.6	604.7	579.8
	Others	494.0	60.2	57.6
	By Customer OEM	2,673.1	2,813.9	2,813.5
	Toyota Group	1,558.6	1,548.5	1,549.4
	Ratio of revenue from Toyota Group	1,550.0	1,540.5	1,549.4
	transactions to total revenue	52.4%	49.4%	49.1%
	After market and non-automotive	303.6	317.6	341.1
	Operating Profit	136.6	188.3	160.7
	Operating Margin	4.6%	6.0%	5.1%
	Profit Attributable to Owners of the Parent Company	73.4	143.0	89.3
	Return on Equity (ROE)	4.0%	7.4%	4.5%
		<u> </u>	145.1 -	179.4
	Capital Expenditures	237.9	145.1	180.6
	Ratio of Depreciation to Revenue	237.9 8.0%	6.2%	5.7%
		270.1	6.2%	298.4
	R&D Expenditure			
	Ratio of R&D Expenditure to Revenue	9.1%	9.3%	9.5%
	Total Dividend Amount	21.8	37.1	37.1
	Amount of Treasury Stock Acquired			
	Earnings per Share (EPS) (yen)	91.11	177.49	110.81
	Cash Dividends per Share (yen)	27	46	46
	Dividend Payout Ratio	29.6%	25.9%	41.5%
	Total Return Ratio	29.6%	25.9%	41.5%
	Stock Price (yen)	2,785	2,760	2,765
	Dividend Yield	1.0%	1.7%	1.7%
	Price Earnings Ratio (PER) (times)	30.6		25.0
	Price Book-Value Ratio (PBR) (times)	1.2	1.1	1.1
	Net Cash Provided by Operating Activities (A)	357.1	395.5	176.7
	Net Cash Used in Investing Activities (B)		-327.9	-271.2
	Free Cash Flow (A+B)	202.0	67.6	-94.6
	Net Cash Used in Financing Activities	29.2	-44.8	78.8
	Cash and Cash Equivalents at End of Year	681.7	688.6	665.4
	Cash on Hand	783.0	933.6	1,022.1
	Interest-Bearing Debt	409.5	399.6	523.1
	Equity Attributable to Owners of the Parent Company	1,916.6	1,962.4	2,009.0
	Total Assets	3,364.1	3,380.4	3,607.7
	Ratio of Equity Attributable to Owners of the Parent			
	Company to Total Assets	57.0%	58.1%	55.7%
Non-Financial Data	Number of Employees	120,812	123,165	126,036
	Local	57,083	59,549	62,100
	Non-Consolidated	38,597	38,318	38,323
	Ratio of Female Employees (Non-Consolidated)			
	Number of Female Employees in Managerial Positions			
	Ratio of Female Employees in Managerial Positions			
	Ratio of Local Employees in Leadership Roles			
	at Overseas Bases	_	_	26%
	CO2 Emissions per Unit*2 (Non-Consolidated)			_
	CO <sub>2</sub> Emissions per Unit <sup>*2</sup>			
	(Domestic and Overseas Group)	_	—	_
	In-House Power Generation Ratio (Non-Consolidated)*3	41.4%	40.9%	40.7%
Exchange Rate	USD (yen)	91	86	79
(during FY)	EUR (yen)	129	113	109
-	Q = q			

\*1 The countries and regions included in "by region" have changed as follows. Fiscal 2010: Japan, North, Central, and South America, Europe, and Australia; fiscal 2011–fiscal 2015: Japan, North America, Europe, Australia, and Others; fiscal 2016 and onward: Japan, North America, Europe, Asia, and Others
 \*2 Per unit = CO<sub>2</sub> emissions/Revenue (indexed to fiscal 2013 as 100%)
 \*3 Ratio of electricity generated through cogeneration to total electricity used

			IFRS				
2013	2014	2015	2016	2017	2018	2019	
3,580.9	4,095.0	4,309.8	4,524.5	4,527.1	5,108.3	5,362.8	
1,808.9	1,895.5	1,838.4	1,801.5	1,871.8	2,140.7	2,284.2	
625.0	799.4	942.3	1,081.1	1,050.5	1,122.8	1,182.0	
348.8	470.5	524.8	568.2	550.2	620.2	609.4	
734.5	855.4	930.8	1,014.7	989.5	1,146.0	1,215.1	
63.8	74.1	73.5	59.0	65.1	78.5	72.0	
3,220.0	3,639.5	3,830.7	4,048.2	4,061.8	4,521.4	4,762.3	
1,832.0	1,995.8	2,007.1	2,047.5	2,075.0	2,300.6	2,484.7	
51.2%	48.7%	46.6%	45.3%	45.8%	45.0%	46.3%	
360.9	455.5	479.1	476.3	465.3	586.9	600.5	
262.4	371.4	331.4	315.7	330.6	412.7	316.2	
7.3%	9.1%	7.7%	7.0%	7.3%	8.1%	5.9%	
181.7	277.2	258.4	244.3	257.6	320.6	254.5	
8.4 %	11.5%	8.4%	7.6%	8.0%	9.3%	7.1%	
230.6	324.1	354.2	334.1	337.4	347.2	416.8	
181.1	197.2	220.1	236.8	241.1	268.6	287.3	
5.1%	4.8%	5.1%	5.2%	5.3%	5.3%	5.4%	
335.5	368.7	396.4	399.3	409.2	447.4	497.4	
9.4%	9.0%	9.2%	8.8%	9.0%	8.8%	9.3%	
51.2	83.7	87.7	95.3	94.6	101.4	108.9	
27.5			27.7	30.0	26.5	28.4	
226.59	348.05	324.01	307.19	326.32	410.45	326.47	
64	105	110	120	120	130	140	
	30.2%	34.0%	39.1%	36.8%	31.7%	42.9%	
43.3%	30.2%	34.0%	50.4%	48.4%	39.9%	54.0%	
3,985	4,948	5,483	4,524	4,897	5,820	4,317	
<u></u>	2.1%	2.0%	2.7%	2.5%	2.2%	3.2%	
17.6	14.2	16.9	14.7	15.0	14.2	13.2	
1.4	1.5	1.3	1.1	1.2	1.3	0.9	
374.8	471.2	383.2	552.9	467.8	558.0	533.5	
				-108.0	-529.1	-514.7	
105.6	95.2	271.7	8.0	359.7	28.9	18.8	
			0.0	240.5		-92.2	
707.3	641.7	792.4	672.5	793.6	783.3	711.6	
1,095.2	1,034.1	944.0	876.7	858.4	918.3	880.8	
507.5	435.7		476.6	350.3	473.9	550.2	
2,300.1	2,799.9	3,327.9	3,123.6	3,312.7	3,598.3	3,595.7	
3,979.1	4,642.1	5,283.3	5,042.9	5,150.8	5,764.4	5,792.4	
57.8%	60.3%	63.0%	61.9%	64.3%	62.4%	62.1%	
122.276	120.072	1/0 71/	1 - 1	1 5 4 4 6 2	100.010	171.000	
132,276	139,842	146,714	151,775	154,493	168,813	171,992	
67,525	74,289	81,060	85,464	86,892	94,209	95,222	
	38,581	38,493	38,489	38,914	39,315	45,304	
11.4%	11.6%	11.9%	12.3%	12.7%	13.1%	13.9%	
	33	40	46	53	61	86	
0.5%	0.5%	0.6%	0.7%	0.8%	0.9%	1.1%	
30%	31%	33%	33%	33%	28%	32%	
100	99	97	88	80	75	68	
100	85	80	76	73	68	65	
37.5%	34.3%	32.9%	38.0%	43.9%	45.5%	45.6%	
83	100	110	120	108	111	111	
107	134	139	133	119	130	128	

DENSO Integrated Report 2019 Corporate Data

# Company Overview and Stock Information (As of March 31, 2019)

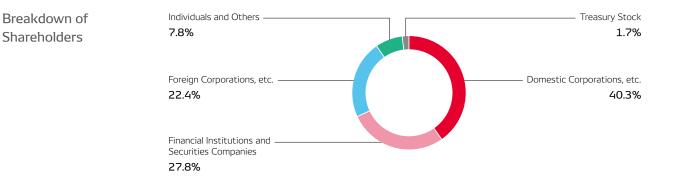
## Company Profile

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: 171,992 Non-consolidated basis: 45,304			
Consolidated Subsidiaries	211 (Japan 70, North America 26, Europe 35, Asia 74, Others 6)			
Companies Accounted for by the Equity Method	71 (Japan 22, North America 8, Europe 4, Asia 33, 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	774,906,367 shares (excluding DENSO CORPORATION owning 13,038,584 shares of treasury stock)			
Number of Shareholders	76,878 (including DENSO CORPORATION owning treasury stock)			
Securities Identification Code	6902			
Stock Exchange Listings	Tokyo, Nagoya			

## Principal Shareholders

(Leading 10 Principal Shareholders)

	Number of shares held (thousands)	Voting share (%)
Toyota Motor Corporation	188,949	24.38
Toyota Industries Corporation	69,373	8.95
The Master Trust Bank of Japan, Ltd. (Trust Account)	47,842	6.17
Towa Realestate Co., Ltd.	33,309	4.30
Japan Trustee Services Bank, Ltd. (Trust Account)	32,120	4.14
Nippon Life Insurance Company		
(Standing proxy: The Master Trust Bank of Japan, Ltd.)	21,645	2.79
DENSO Employees' Shareholding Association	13,240	1.71
Aisin Seiki Co., Ltd.	12,518	1.62
SSBTC Client Omnibus Account		
(Standing proxy: Hongkong Shanghai Banking Corporation,		
Tokyo Branch)	12,012	1.55
Japan Trustee Services Bank, Ltd. (Trust Account 5)	8,641	1.12



## Trend in TSR\*

-DENSO

400

300

200

100

### TSR (Cumulative / Annual Rate)

	1 year	3 years		5 years		10 years	
Investment period	Cumulative / Annual rate	Cumulative	Annual rate	Cumulative	Annual rate	Cumulative	Annual rate
DENSO	-23.4%	4.0%	1.3%	-0.2%	0.0%	167.7%	10.3%
ΤΟΡΙΧ	-5.0%	26.2%	8.1%	47.1%	8.0%	153.3%	9.7%
TOPIX (Transportation equipment)	-10.5%	10.2%	3.3%	17.3%	3.2%	156.8%	9.9%

Note: Created in-house based on market data -TOPIX -TOPIX (Transportation equipment) Trend in stock index including dividends based on fiscal 2009 year-end data, indexed at 100



#### (Yen) (Yen) 8,000 Stock price (left scale) Nikkei stock average (right scale) 30,000 25.000 7.000 20,000 6,000 5,000 15,000 4,000 10,000 3,000 5,000 (Millions of shares) 60 Trading volume 40 20 0 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 Fiscal 2018 Fiscal 2017 Fiscal 2019

## Stock Price Range and Trading Volume (Tokyo Stock Exchange)

## DENSO CORPORATION

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