



DENSO

Crafting the Core

Integrated Report 2017

Digest

For the year ended March 31, 2017



Crafting the Core

Continuing to create valuable products for the future

We view the dramatic changes occurring in the automotive industry as a prime business opportunity. As such, we have established the new slogan of “Crafting the Core,” which will guide our actions as we continue to evolve our business for the future.



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About This Booklet (Digest Edition)

This booklet (digest edition) consists of excerpts from DENSO's *Integrated Report 2017* (hereinafter, "the integrated report"), which was published in October 2017. In the integrated report, content is focused on the integrated introduction of financial information, such as financial results, business conditions, and management strategies, and non-financial information on the environment, society, and governance, or "invisible assets." The integrated report's content also deals with mechanisms responsible for the creation of DENSO's unique corporate value.

In an effort to communicate the overall picture of the integrated report in an easy-to-understand manner, this booklet has been edited to include abridged versions of the integrated report's main points. For detailed information, please consult the integrated report, which can be viewed from the link below.

https://www.denso.com/global/en/investors/library/annual_report/





Koji Ojima

CEO Message

To Our Stakeholders

We are realizing innovation so that we can continue to be a company that earns the understanding of society as we approach our “second founding.”

I would like to sincerely thank our shareholders for their continued support.

Business Environment Changes and the Company's Focus Fields

As the level of uncertainty increases in economies and markets across the globe, the question for a company is no longer how it can achieve conventional growth, but rather how it can anticipate the changes that are likely to occur in the future. In particular, the automotive industry is currently undergoing a paradigm shift with the rise of such trends and technologies as electrification, automated driving, connected cars, and car sharing. These kinds of changes have been occurring at a much faster pace than expected.

In addition, these recent changes in the business environment rival those that were occurring at the time of the Company's founding 60 years ago. With a sense of urgency, we therefore believe that we are approaching the time of our “second founding.”

DENSO has adopted the Long-term Policy of “Protecting Lives, Preserving the Planet, and Preparing a Bright Future for Generations to Come.” Guided by this policy, we aim to continue to be a company that contributes to society and earns the understanding of people from around the world.

To this end, we have established our focus fields as electrification, Advanced Driver Assistance Systems (ADAS)/automated driving (AD), connected cars, and factory automation (FA), and we will leverage our long-cultivated strengths in R&D, *Monozukuri* (the art of making things), and *Hitozukuri* (human resource development) to realize our “second founding.”

Furthermore, to stay one step ahead of the rapid changes that are occurring in the business environment, we are moving forward with discussion on establishing our Long-term Vision for 2025, which will illustrate the kind of company we aim to be by 2025. We plan to announce this vision to our stakeholders during the current fiscal year.

Necessary Innovation for Today

Innovation is crucial for expanding the businesses within our focus fields and realizing our “second founding.” In the case of DENSO, innovation refers to creation. Simply making improvements within our existing business fields will not lead to growth under the current business environment. Rather, the key for growth going forward is innovation, which entails the accumulation of improvements to create new approaches and methods that go far beyond conventional ways of thinking. To bring about innovation, each of our employees around the world must ascertain global changes and absorb new value systems and ways of thinking. By experiencing things that defy conventional wisdom, studying change, and holding thorough debate, all of our 150,000 employees around the globe—led by the managerial ranks—will take decisive action to bring about innovation that will shape the future.

Inheriting the Spirit of Our Predecessors and Taking Action for Innovation

Since our establishment in 1949, we have provided society with the value of security, peace of mind, and environmental friendliness, while maintaining a passion for quality and safety. DENSO was established at the dawn of a new area in the Japanese automotive industry. Over the course of our 60-plus-year history, our predecessors established an in-house structure that comprehensively covers the development, design, and production of integrated circuits (ICs) in anticipation of the shift to electric vehicles. Furthermore, even during the recession of the 1970s, which occurred against the backdrop of turbulent world affairs, our predecessors pursued technological development geared toward the widespread use of air-conditioning in cars and in response to strengthened regulations on emissions. No matter what the circumstances, our predecessors overcame hardships with a desire to further contribute to society and a devotion to shape the future on their own initiative.

Guided by this devotion, our predecessors had to overcome challenges through the years, and this sense of commitment has been continuously passed down like DNA. Moreover, it is embodied in The NIPPONDENSO Spirit, the Company’s original mission statement, which was established in 1956—and the “DENSO Spirit,” which embodies the values expressed in the mission statement, is currently instilled in all of our employees. With this devotion, our employees believe in their own abilities and maintain an awareness of the importance of innovation. Going forward, these employees will take the initiative in bringing about innovation, adopting a three-prong approach consisting of “enhancing sensitivities through foresight,” “pursuing quality with a professional awareness,” and “working together while engaging in honest communication.”

Another essential element in realizing innovation is speed. Within a business environment that is changing at a remarkable pace, prompt measures to spur innovation are needed. To this end, we must avoid an overly inward approach and become more open in terms of forming alliances. However, we cannot form proper alliances by simply getting into contact with external parties. It is important that we form alliances with organizations that share a similar set of values. To better convey the set of values we embrace, we established “Crafting the Core” as our new slogan. “Crafting the Core” communicates our conviction toward making meticulous efforts to continue to create and enhance things that are valuable for people. By communicating what we value as

a company and how we contribute to people's happiness to a large number of people, we will share our value systems with external parties to increase our number of business partners and push forward with efforts to bring about innovation.

A Foundation for Innovation That Supports Business Growth

To contribute to the creation of an even better society in a sustainable manner, it is important for us to establish a foundation that supports business growth. While they may not reflect directly in numerical figures such as sales and profit amounts, initiatives toward governance, which ensure high levels of transparency that allow us to continue to realize sound growth; environmental management, which work to resolve issues related to the environment and energy and realize a harmonious existence with nature; and dialogue with society, which help create a virtuous cycle with society through interaction with all of our stakeholders, are extremely important in establishing such a foundation. To take decisive action toward innovation, we must further solidify our business foundation and ensure that it is appropriate for the times we live in.

In the case of governance, we made revisions to our management structure with the aim of accelerating our business execution in the midst of major change and invigorating strategic debate at Board of Directors' meetings. With these revisions, we reduced the number of directors and worked to separate the roles of business management and execution by further clarifying the roles of directors, who are in charge of management, and senior executive directors and executive directors, who are responsible for business execution. Going forward, we will constantly consider the necessary foundation for promoting our business through innovation and work to reinforce that foundation.

Continue to Be a Company That Earns the Trust of Society

I believe that consistent dialogue with our stakeholders is crucial for further enhancing our efforts to establish a foundation for innovation. Last year, we issued an integrated report for the first time. This report was read by a wide range of stakeholders, including our shareholders and other investors and our business partners, who kindly offered us their thoughts and opinions. I would like to offer my sincerest gratitude for the support and trust DENSO has received from a large number of stakeholders.

At the same time, I would like to express my earnest desire to respond sincerely to stakeholder expectations and promote Companywide efforts to allow us to continue to be a company that earns the trust of society.

I would like to ask our stakeholders for their continued support as we pursue these endeavors going forward.



Koji Arima
President & CEO

Value Creation Story

With the major changes that are occurring in the business environment,
DENSO is approaching the time of its “second founding.”

To continue to be a company that earns the trust of society amid these changes,
DENSO will resolve social issues through its business activities and realize its future vision.

Since its founding, DENSO has nurtured the strengths of R&D, *Monozukuri*,
and *Hitozukuri*. By intertwining efforts throughout its focus fields,
DENSO is promoting corporate activities with a sense of urgency in all of its business domains.

In doing so, all of DENSO’s employees, who embody the DENSO Spirit,
will provide value to society and help shape the future.

This section introduces the story of DENSO’s value creation.

Issues Society Will Face in the Future

Intensifying social issues

- Global warming and air pollution
- Urbanization and aging populations

Accelerating technological innovations

- Digitization (IoT)
- Robotics (AI)

Changing value systems

- Diversification of values
- Changing consumer behavior (shift from car ownership to car sharing)



Long-term Policy

Protecting Lives,
Preserving the Planet, and
Preparing a Bright Future
for Generations to Come

Environment

Security & Safety

Focus Fields

- DENSO Efficient Driving
- DENSO Automated Driving
- DENSO Connected Driving

- FA

Strengths

□ P8-9

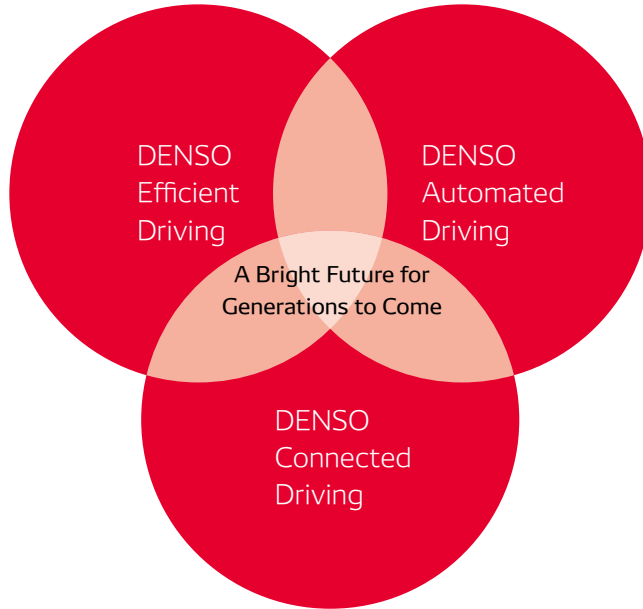
- R&D
- *Monozukuri*
- *Hitozukuri*

The Foundation That Supports Our Business Growth

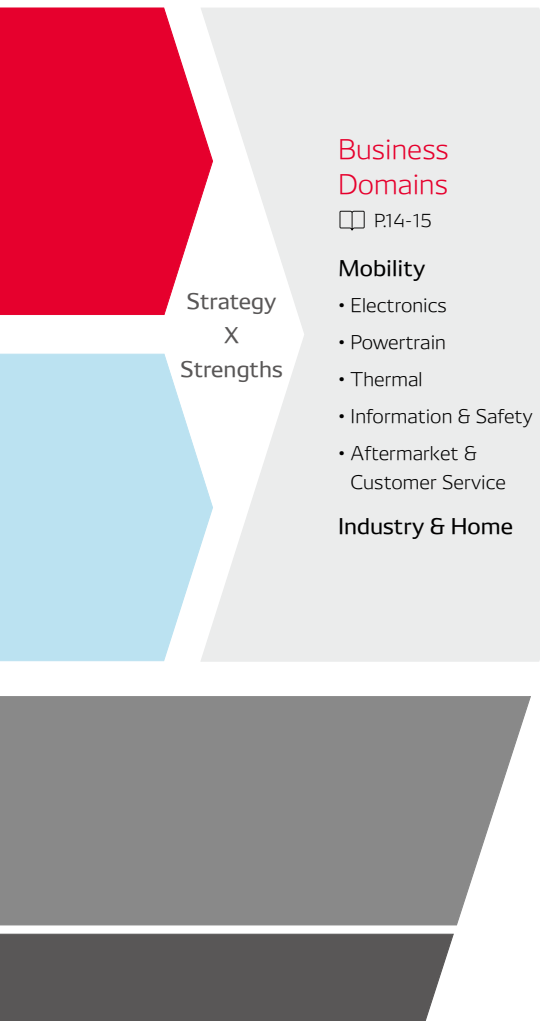
- Corporate Governance
- Encouraging an Active Role for Our Human Resources
- Compliance
- Risk Management
- Environmental Management
- Quality Assurance
- Intellectual Property Activities
- Engagement with Society

DENSO Spirit

DENSO's Focus Fields and the Value It Aims to Provide



What DENSO Aims to Be



Offering the freedom and joy of movement to all people

- Realize a society without traffic accidents
- Get people to the places they want to go
- Give shape to a society that safely connects people with information

Being eco-friendly and providing people with comfort

- Allow people to move with comfort in the way they please
- Create a society that helps conserve the global environment the more people travel
- Offer people the things they want, when they want them, and where they want them

Becoming a company that earns the trust of all of its stakeholders and contributes to the creation of an enriched and secure society

Strengths That the Company Has Nurtured Since Its Founding

As stated in the value creation story on page 6, DENSO has nurtured the strengths of R&D, *Monozukuri*, and *Hitozukuri* since its founding.

By leveraging these strengths and intertwining efforts throughout its focus fields, DENSO will deliver value to society that will shape the future.

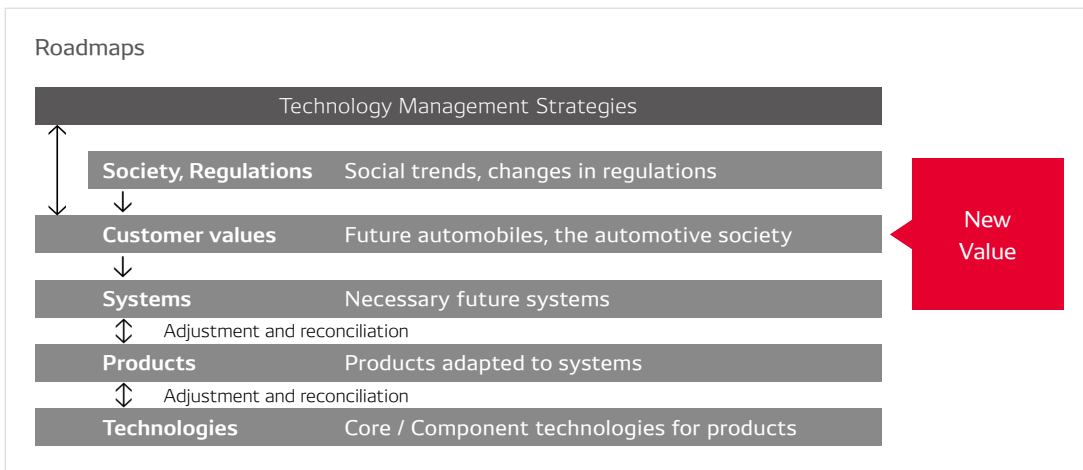
This section will explain the secrets behind DENSO's strengths and introduce the initiatives the Company is undertaking to further enhance its competitiveness.

1. Research and Development (R&D)

In research and development—the starting point for new value creation—we are taking steps to further strengthen planning and R&D in order to accurately perceive society's needs and produce competitive products. DENSO has been promoting roadmaps that show the path for advancing relative to each successive period: short term (five years), medium term (10 years), and long term (11 years or more). The roadmaps will incorporate changes in regulations and the needs of the global community and will decide the R&D themes to be started and terminated after they are shared with each division, the Engineering Research & Development Center, and the Production Innovation Center.

In addition, to strengthen the global development network, we maintain technical centers at seven regions throughout the world and incorporate technical proposals tailored to local needs.

DENSO considers R&D expenditure at around 9% of revenue to be an appropriate level, and in fiscal 2017, the year ended March 31, 2017, R&D expenditure came to ¥409.2 billion and is expected to be ¥425.0 billion in fiscal 2018.



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.

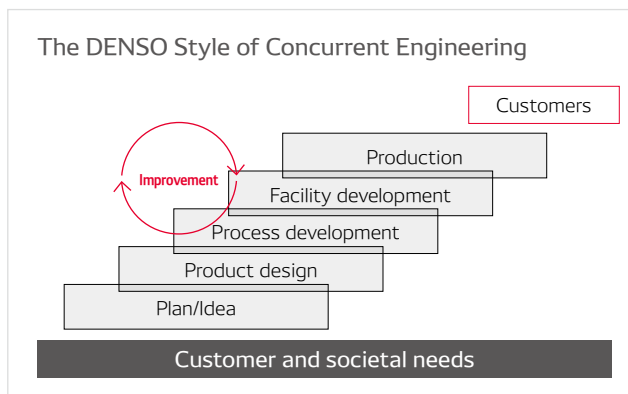
* *DANTOTSU*: A *DANTOTSU* plant is one that undertakes *Monozukuri* at a *DANTOTSU* (outstanding) cost. A *DANTOTSU* plant is at such a high level that it cannot be compared to other plants.



R&D X *Monozukuri*

Concurrent Engineering

At DENSO, we believe that new product development comprises both R&D and *Monozukuri*. As with any new technology, if it cannot be turned into reality it cannot be developed into a product. Because R&D and *Monozukuri* jointly contribute knowledge and provide a positive influence, we can produce new products of a higher dimension.



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*.

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

In January 2016, DENSO introduced a global common personnel management system targeting the nearly 2,300 members of senior management at its headquarters and at each Group company.

This system incorporates a “Global Individual Grade” that focuses on the individual capabilities of senior management members. By using a common grading tool to evaluate and promote its senior staff, DENSO allows its personnel around the world to develop their careers on a global scale. Through this system, DENSO aims to further develop its global business by recruiting employees with a diverse range of values and abilities.



Special Feature

The Safety and Security Created by DENSO Driver Status Monitor

DENSO aspires to create an automobile that lets all people enjoy the freedom of mobility in a safe and secure manner.

The Driver Status Monitor is one example of how DENSO has leveraged its unique strengths to realize that aspiration. By elaborating on the background of the Driver Status Monitor's development, this section introduces the story of DENSO's value creation.

Driving status monitoring system that accurately monitors driver's condition and supports safe driving



What is the Driver Status Monitor?

The Driver Status Monitor (DSM) is a system that uses a sensor device to monitor the driver's face and eyes and uses a computer to calculate any abnormalities in the driver's condition, such as if the driver is falling asleep at the wheel or looking away from the road. When abnormal conditions are detected, the system uses an alarm to warn the driver and encourage safer driving. If it is determined that no improvement is made in the driver's condition after giving a warning, DSM establishes a link with the vehicle's pre-collision braking system to speed up the timing of braking. The detection sensitivity of DSM is extremely high, allowing it to realize consistently stable detection of not only the driver's condition but also the conditions in which he or she is driving. As such, DSM is a product that helps keep the driver safe and secure at all times.

Background of Development

For a company like DENSO, which constantly pursues challenges with a devotion to safety and security, reducing the number of traffic accidents and limiting the damage caused by traffic accidents are extremely important issues. Traffic accidents can be caused by environmental, vehicular, and human factors, with human factors being the most prevalent of the three. To decrease the number of accidents caused by human factors, DENSO worked for over 10 years to develop DSM, which monitors the condition of drivers and supports driving safety. There is a considerable amount of ambiguity and variety when it comes to people's faces, and DENSO had to overcome great difficulties to develop a monitoring system that could quantitatively evaluate a person's face with an extremely high recognition rate. Amassing the Company's comprehensive strengths and abilities, DENSO realized the commercialization and mass production of DSM in 2014. DSM is currently being used in trucks and buses as it helps prevent driving while drowsy and distracted driving, which have

become significant social issues. In this way, DSM contributes to driver safety.

Obstacles That Stood in the Way of Commercializing DSM: Three Product Features That Provided the Strength for Overcoming Commercialization Obstacles

Before the project's development got under way, the concept for DSM took shape in 1991, when collaborative public-private development projects centered on the Ministry of Land, Infrastructure, Transport and Tourism commenced. However, these public-private development projects were unable to realize the commercialization of DSM for many years due to the difficulty of achieving a facial recognition function that could process the ambiguity and variety in people's faces and steadily capture images of faces both during the day and at night, when the lighting environment drastically differs. DENSO's unique technological strengths and the capabilities of its employees provided a path for overcoming this difficulty as well as the many other obstacles

to commercialization that followed.

DENSO's DSM boasts many unique features, including not only its ability to link with a vehicle's braking system but also its independent alarm function and extremely high-performing facial recognition rate. All parties involved in the development of DSM worked together with a desire to leverage DENSO's outstanding technological strengths to realize enhanced levels of safety and security, and it was the culmination of these efforts that led to the successful development of DSM, which offers various functions with unrivaled performance.

Feature 1 High-performance image recognition technologies that are not easily influenced by the external environment

Imaging technology that is not easily impacted by external light is essential to the precise detection of a driver's face. After hypothesizing the various environmental conditions of the vehicle interior and repeatedly conducting verification tests, DENSO was able to create an imaging system using near infrared rays, which are not easily affected by surrounding brightness. In turn, this system allowed the Company to realize an imaging performance that is stable in a wide variety of lighting environments and is not significantly impacted by the strength of sunlight. Supported by the Company's long-cultivated image recognition technologies, the DSM development team collaborated with both internal and external divisions to create this superior imaging system through the repetition of the trial-and-error process. Thanks to these efforts, DENSO was able to realize high-performance imaging.

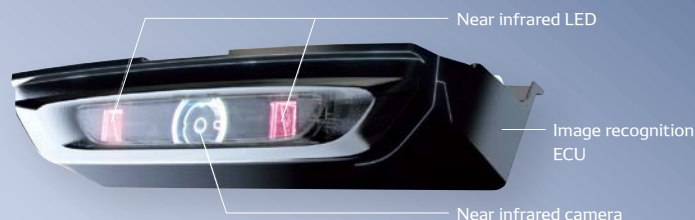
Feature 2 Image recognition algorithms that can recognize any type of face

To develop an algorithm that can respond to the ambiguity and variety of people's faces, DENSO collected a variety of facial images from over 6,000 people of different races, genders, and ages, and compiled these images into a database. Leveraging this data, the Company repeatedly carried out verification tests and conducted a wide variety of research so that DSM's electronic control unit (ECU) would be able to recognize the driver's facial contours, eyes, nose, mouth, and other features and make accurate estimations regarding abnormalities (e.g., drowsiness) in the orientation of the driver's face based on the relative location of the driver's facial parts and on the extent his or her eyes are open. As a result, DENSO was able to realize facial recognition technologies that can thoroughly recognize individual differences. Moreover, this research allowed the Company to develop DSM with built-in functions that automatically study the characteristics of a driver's eyes. Thanks to the steadfast approach of the DSM development team and the Company's comprehensive analysis technologies, DENSO was able to overcome the various obstacles within the development process of image recognition algorithms.

Feature 3 Reduced size that enhances the ease of installation

To properly recognize a driver's face, it is necessary to capture an image while the driver is facing forward, which means the

Reduced size by offering the camera, ECU, and near infrared LED in a single package



ideal position for a camera is near the speedometer. However, the amount of space for installation is limited as many other devices also occupy this area. As such, DENSO successfully reduced DSM's size by integrating the camera with the ECU and near infrared LED, making it easy for the device to be installed in areas with limited space. While there had been some products that offered cameras and ECUs as separate devices, DSM was the world's first product to integrate the camera and the ECU into one device. The process for integrating these functions into a single package and reducing its size represented a battle with "heat." The dashboard of a vehicle, where DSM is installed, is an area that is exposed to direct sunlight, and the components incorporated within DSM also generate heat. Accordingly, promoting heat loss in an efficient manner represented a significant hurdle. To overcome this hurdle, the personnel in charge of developing DSM's imaging and lighting components collaborated with the personnel in charge of developing the device's facial recognition functions, working under a common goal to examine and propose the best solutions in their respective areas of expertise. This kind of team effort allowed DENSO to create a product that could steadily maintain quality and performance within a wide range of temperatures.

Expanding the Potential of DSM and Moving On to the Next Challenge

DENSO took on the challenge of discovering a way to quantitatively evaluate the human face, which is ambiguous in nature, thereby realizing the mass production of DSM. However, to fully address the issue of driver safety and security, there are still many tasks that need to be accomplished. For its initiatives going forward, DENSO aims to develop not only technologies that can detect human error on the part of the driver but also technologies that are more advanced in monitoring the condition of the driver's health and are able to further implement safety measures such as automatically pulling over to the shoulder of the road in place of the driver in the event the driver's condition suddenly worsens. While the current DSM monitors the driver with a high level of sensitivity, DENSO aims to turn DSM into a device that better protects drivers "from the background," allowing them to enjoy a more liberating and secure experience within the vehicle.

DENSO's History of Corporate Value Creation

DENSO has maintained the corporate mission of addressing shifts in social needs while helping to solve social issues.

Throughout the years, DENSO has anticipated the changes occurring around the world and worked to bring about innovation on its own initiative while becoming even more in tune with social issues.

As a result, the Company has dramatically expanded its business domains and significantly grown its sales.

This section provides details of the Company's growth trajectory as well as its history of innovation in responding to the changing needs of society.

1950s

Major Advancements as a Comprehensive Manufacturer of Automotive Parts

Changes in Society:

- The dawn of motorization
- Rapid increase in consumer spending due to high economic growth
- Growing technological gap with Europe and North America

DENSO's Innovation:

To keep pace with global companies, DENSO entered into a technical cooperation agreement with Robert Bosch GmbH, Europe's leading electrical equipment manufacturer. Through this agreement, DENSO received an abundance of useful suggestions on everything from advanced technological development to business management systems. The Company fully digested and absorbed these suggestions and leveraged them to establish sound business systems. In doing so, DENSO made major advancements as a comprehensive manufacturer of automotive parts from both a technical and managerial perspective.



1953: Technical cooperation agreement with Robert Bosch GmbH

1960s

Establishment of In-house IC Development Structure in Anticipation of Trends in Car Electronics

Changes in Society:

- Telltale signs of the coming of car electronics
- Emergence of integrated circuits (ICs) for the general consumer and movements toward tightening regulations on gas emissions of automobiles

DENSO's Innovation:

Anticipating the application of electronic components in automobiles, DENSO developed the first alternator in Japan that used silicon diodes. Furthermore, while ICs for the general consumer emerged, this technology was difficult to use as is within the unique environment of the automobile. With the aim of realizing the complete in-house production of ICs that correspond with driving environments, DENSO established a comprehensive system that conducts everything from development to production in-house. As a result, DENSO was able to promptly realize the practical application of technologies that could respond to the strengthening of regulations on gas emissions, which would occur in the 1970s.



1968: Establishment of the IC Research Laboratory

1970s

Growth Achieved Amid Economic Recession

Changes in Society:

- Inflation and economic disorder in Japan brought about by the Nixon Shock and the oil crisis

DENSO's Innovation:

DENSO began promoting three major strategies: Cultivating a market for car air-conditioners, developing new electronic products, and improving domestic sales and services and implementing bolder, more aggressive sales initiatives. As a result, the Company was able to raise its net sales by 2.4 times in the five-year period from 1970 to 1975, rising from ¥93.0 billion to ¥226.0 billion, even amid the economic recession. This rapid growth defied the conventional thought that the growth of automotive part manufacturers should be proportionate to growth in the number of cars produced.



The Toyota CENTURY, the first automobile to be equipped with an air-conditioning unit

1949

1961

1971

1981

1980s

Full-Scale Development Aimed at Becoming a Global Company

Changes in Society:

- Recession caused by rapid yen appreciation
- Localization of the automotive industry to act as a countermeasure to the voluntary export restraint agreement with the United States

DENSO's Innovation:

To respond to not only the trend toward localization in the automotive industry but also the rapid fluctuations in exchange rates, DENSO commenced local production overseas ahead of many Japanese automobile manufacturers, establishing Nippon Denso Manufacturing USA, Inc. in 1986 in Battle Creek, Michigan. Through the establishment of Nippon Denso Manufacturing USA, the Company carried out full-scale overseas production. Guided by the strategies of "creating a company worth ¥1 trillion in 10 years" and "securing a stable business foundation in a wide range of international markets," DENSO established an organizational structure geared toward globalization and actively pursued capital expenditures. The Company also worked to localize itself by incorporating the cultures of each area of operation. Through these efforts, DENSO moved forward with its global development.



1986: Establishment of Nippon Denso Manufacturing USA, Inc.

2000s

Further Creation of a Culture of Innovation and Self-Challenge

Changes in Society:

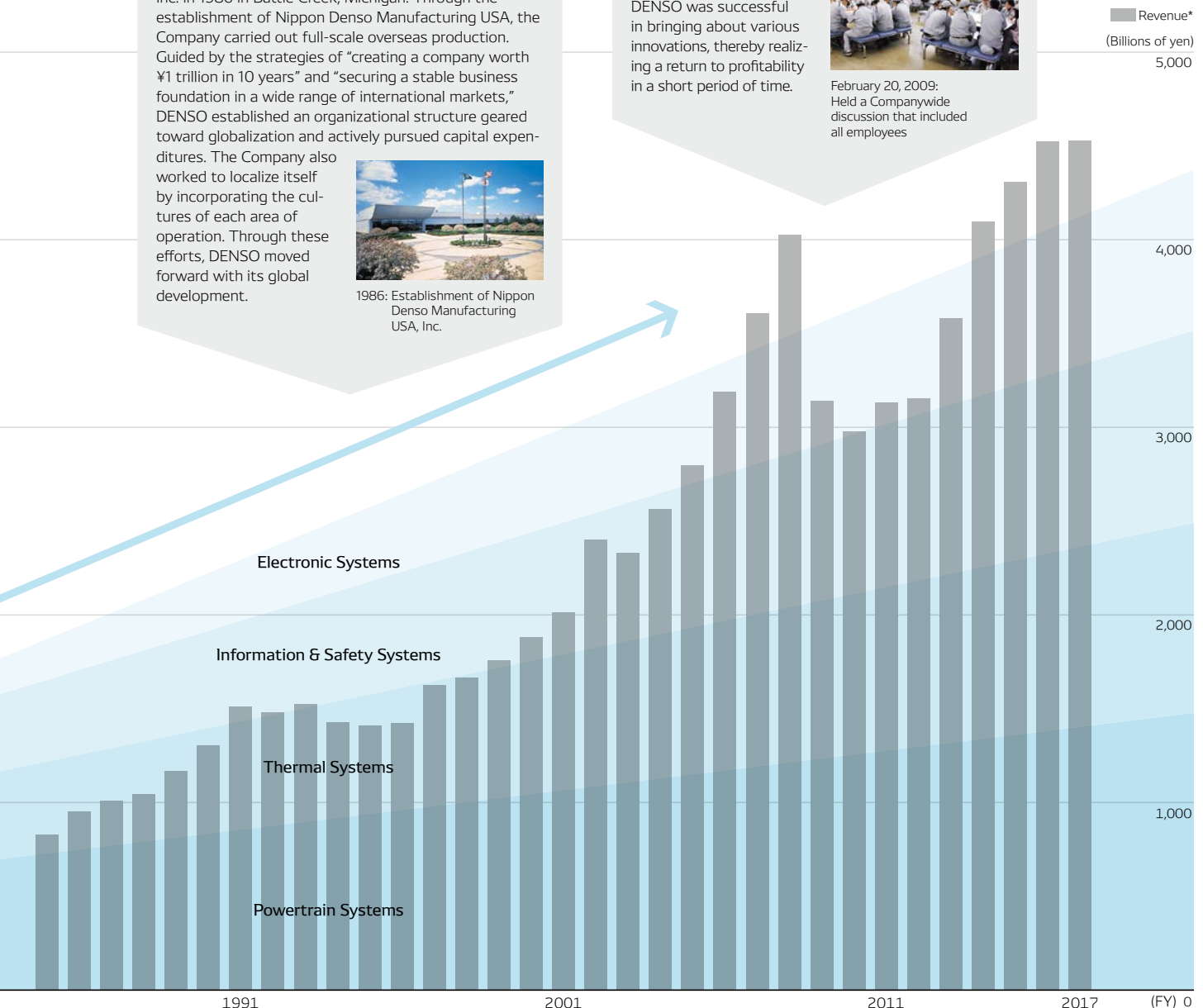
- Sudden worsening of the economy due to the start of the global financial crisis

DENSO's Innovation:

Due to the decline in the global automotive market, DENSO recorded an operating loss (fiscal 2009) for the first time since its founding. In response to this, the Company formulated a three-year policy for structural reforms, making efforts to streamline its business and establish a structure for future growth. In terms of streamlining, DENSO thoroughly revised its capital expenditures and other expenses. For establishing a structure for future growth, the Company promoted the creation of a structure for technological development that responded to the needs of each region of operation through measures to improve fuel economy and reduce CO₂ emissions, among other efforts. Guided by the idea that "if we change as individuals, then we can change as a company," DENSO was successful in bringing about various innovations, thereby realizing a return to profitability in a short period of time.



February 20, 2009: Held a Companywide discussion that included all employees



* 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.)

DENSO's Business Segments and Vision

To deliver an even better future to the next generation, DENSO devotes itself to conserving the environment and providing safety and security. With this devotion, the Company engages in a variety of businesses centered on automobile-related businesses (the "Mobility" field), in addition to the "Industry & Home" field and other fields.

Value Delivered to Society

ENVIRONMENT



DRIVING CLEAN

Business Domains

Mobility

ELECTRONICS



The Core of Intelligence "GROUND"

Dreaming of a more intelligent vehicle.

POWERTRAIN



The Core of Driving Pleasure "HORIZON"

Joy that fuels you and the planet.

THERMAL



The Core of Comfort "OASIS"

Making your vehicle the most comfortable place to be.

AFTERMARKET & CUSTOMER SERVICE



The Core of Satisfaction "TRUST"

Your trusted partner for the road ahead.

SAFETY



DRIVING COMFORT

INFORMATION &
SAFETY



The Core of
Experience "HARMONY"

Orchestrating the excitement
of a new era.

Industry & Home

INDUSTRY & HOME



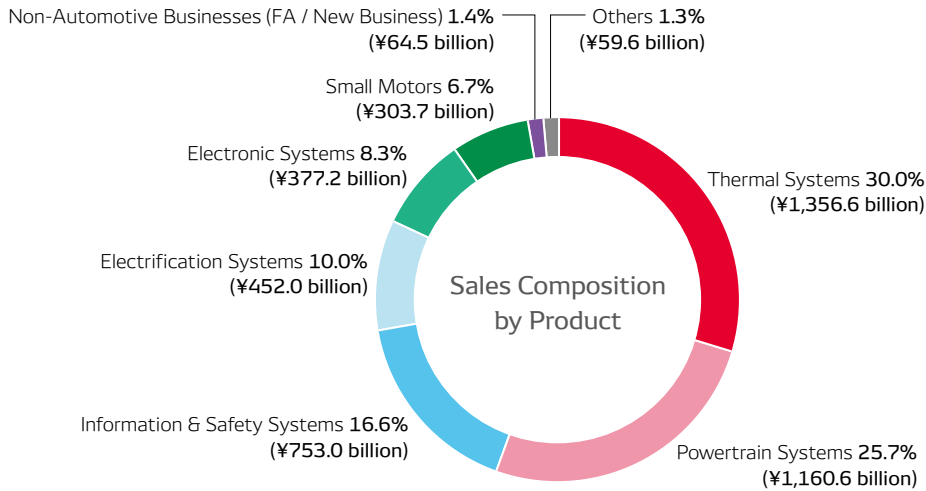
The Core of
Solution "SYNERGY"

Making society run better.

At a Glance

DENSO is organized around business groups and engages in a broad range of businesses, primarily in fields related to automobiles. These business groups coordinate with one another, leveraging their respective strengths to accommodate systemization and modularization.

Revenue
¥4,527.1 billion



ELECTRONIC SYSTEMS

Main Products



Engine Electronic Control Unit



In-Car Semiconductor Sensor

Business Activities

Development and manufacture of electronic products and in-car semiconductor sensors for engine control computers as well as of micro-electronic devices such as ICs

Strengths

- Extensive product lineup in the field of in-car electronics
- Advanced technological strengths capable of in-house semiconductor manufacturing
- Development capabilities in vertical integration* of semiconductors that satisfy individual product needs

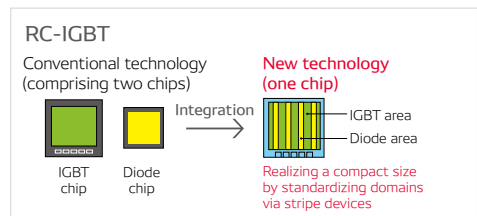
* DENSO proprietary integrated semiconductor development, from semiconductors to ECUs and actuators

Fiscal 2017 Overview

Accelerated the Development and Commercialization of Electrification Technologies

In terms of developing high-performance, next-generation power devices*¹ for power control units (PCUs) that regulate the high electrical output needed to power motors for hybrid and electric vehicles, DENSO collaborated with Fuji Electric Co., Ltd. to successfully develop the first-ever reverse-conducting IGBT (RC-IGBT*²) for automobiles. Used to support large currents and high-pressure resistance, the RC-IGBT integrates an IGBT and a freewheeling diode into one chip, a task that was thought to be next to impossible.

*¹ Power device: A semiconductor used for inverters, the main component in a power control unit
 *² RC-IGBT: Reverse-conducting insulated gate bipolar transistor



POWERTRAIN SYSTEMS

Main Products



Gasoline Direct Injector



High Pressure Pump

Business Activities

Development of next-generation powertrains and development and manufacture of engine-related products, such as gasoline and diesel engine control systems and fuel pumps, variable valve timing-related products, and sensors, in addition to 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 that extend from gasoline and diesel internal combustion engines to products that are powered by electricity, including hybrid cars, electric automobiles, and fuel-cell vehicles. We are also able to produce products in these domains using highly advanced production techniques.

Fiscal 2017 Overview

Reinforcement of Product Competitiveness

DENSO developed and commenced the mass production of a large number of products that help improve the environmental performance of powertrains mounted on the all-new Toyota Camry.

Example Gasoline direct injectors

By using a newly developed cone shape for the fuel-injecting nozzle, DENSO's gasoline direct injectors help improve air-fuel mixture and contribute to the high-speed combustion of new powertrains. In doing so, these injectors help realize clean exhaust emissions and enhance fuel economy.

ELECTRIFICATION SYSTEMS

Main Products



Power Control Unit



Motor Stator

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

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, we engage in comprehensive, system-based development.

Fiscal 2017 Overview

Expanded the Number of Car Models Equipped with DENSO Products through Quality Improvements

DENSO realized higher output, enhanced efficiency, and reduced size for many of its products, including power control units, motor generators, DC-to-DC convertors, battery ECUs, and HV-ECUs for strong hybrid vehicles as well as battery packs for mild hybrid vehicles. As a result, the Company increased the number of car models that adopt its products.

<p>Inverter: Controls electric current and voltage</p> <p>33% reduction in size (compared with the previous model)</p>	<p>Motor: Drives and generates power for vehicles</p> <p>20% reduction in weight</p>
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THERMAL SYSTEMS

Main Products



HVAC Unit



Radiator

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

Fiscal 2017 Overview

Reinforcement of Product Competitiveness

Through DENSO Fukushima Corporation, the Company has commenced the mass production of radiators and condensers and put in place a structure for the production and supply of heat exchangers for its customers. In addition, DENSO began local production of cold storage evaporators in North America, which help conserve energy. The Company also expanded its product lineup to address local needs. For example, for the pickup truck and high-performance automobile market in North America, the Company developed large radiators with widths that are 25% thinner than conventional radiators.

INFORMATION & SAFETY SYSTEMS

Main Products



Millimeter-Wave Radar Sensor



Vision Sensor

Business Activities

We develop and manufacture products and provide services across a wide range of human machine interface (HMI), information and communications, body electronics, advanced safety, collision safety, vehicle motion control, and related fields.

Strengths

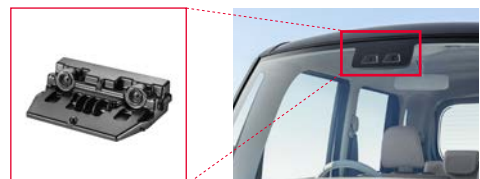
- We are active in four key areas that are essential to realizing advanced driver assistance systems (ADAS) and automated driving (AD). These areas are road environment recognition, human machine interface (HMI), information and communications, and vehicle motion control technology. We are able to undertake the development of products that draw on our comprehensive strengths in these four areas.
- Our competitive advantage also rests on the combined basic research that underpins each of these technology fields.

Fiscal 2017 Overview

Development of World's Smallest Stereo Image Sensor*

DENSO developed the world's smallest stereo image sensor to serve as a means for improving the safety of compact vehicles, which have limited space for installation. Image sensors use cameras to identify the white lines on the road and physical objects in front of the vehicle and are equipped with a break support function and a lane departure warning function that help avoid collisions with oncoming vehicles and pedestrians in times of emergency.

* As of November 2016 (DENSO research)



SMALL MOTORS

Main Products



Windshield Wiper System



Power Window Regulator Motor

Business Activities

Development and manufacture of all types of small motors, including windshield wiper systems, power windows, power seats, power steering, motors for engine control systems, blowers, and cooling fans (ASMO Co., Ltd.)

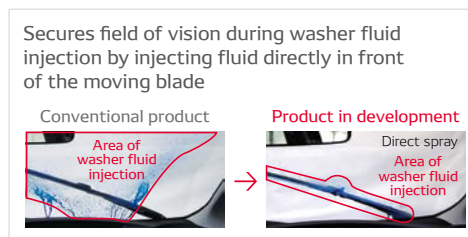
Strengths

- Speedy development system through close collaboration between machine (small motor) technology and electronic control technology specialists within the Group and the orchestration of comprehensive capabilities
- Monozukuri capabilities that realize smaller, lighter, and more efficient products—precisely because we have a thorough knowledge of small motors

Fiscal 2017 Overview

Mass Production of Products That Secure a Safe Field of Vision While Driving

DENSO commenced the mass production of a linkage-less smart windshield wiper system that helps improve camera performance and enhance the driver's field of vision to provide more safety. This windshield wiper system uses a dual-motor simultaneous control function to eliminate the need for linkage, thereby reducing the space needed for system installation by half. In addition, the washer fluid injection control function and the ability to change injection methods help reduce obstacles to the driver's field of vision.



NON-AUTOMOTIVE BUSINESSES

(FA and New Business)

Main Products



Vertical Articulated Robot



Barcode and 2D Code Handy Terminals

Business Activities

Development and manufacture of consumer products and other products* not in the automotive field, such as industrial products for industrial robots (for which Denso Wave Inc. is responsible) and CO₂ heat pump hot water supply systems.

* Security, health care, biotechnology, agricultural support, cold chain, information solutions, among others

Strengths

- Advanced recognition, control, and sensing technologies accumulated from the automotive field
- Understanding of customers' and society's needs and efforts to propose innovative products and services

Fiscal 2017 Overview

Contribute to the Resolution of New Social Issues

Leveraging the ICT technological capabilities it has cultivated in the field of automotive parts, DENSO has commenced the provision of the Life Vision service for a system verification business* operated by Yuzawa City in Akita Prefecture that assists the elderly. Life Vision is a service that provides elderly people with local information, as well as emergency information in times of a disaster, electronically from tablets and smartphones. Life Vision also provides assistance in watching over the elderly in such ways as making the process for arranging a taxi easier.

* A business in Yuzawa City that conducts verification tests on life-style support systems and other systems for the elderly



Main screen of the Life Vision service

Corporate Governance

Basic Stance

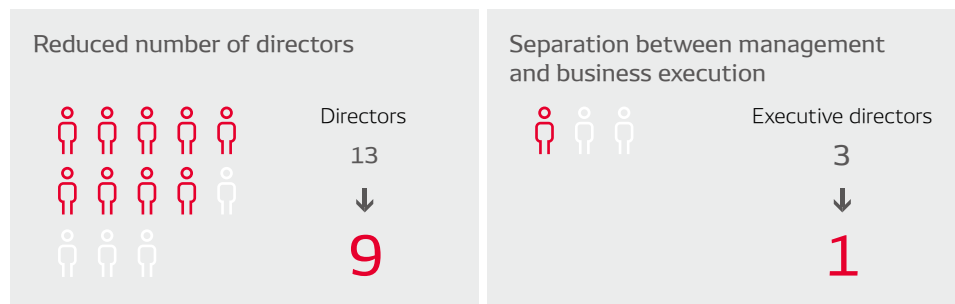
DENSO believes that establishing a corporate governance system designed to strengthen Group competitiveness is the key to maintaining and improving long-term corporate performance in a quickly changing global marketplace. Specifically, DENSO CORPORATION has adopted a corporate auditor system. In addition to statutory bodies such as the General Meeting of Shareholders, Board of Directors, Audit & Supervisory Board, and Accounting Auditor, DENSO CORPORATION has developed various governance mechanisms. We are implementing highly sound, efficient, and transparent management by continuously providing shareholders and investors with information on the state of our business.

In June 2015, DENSO formulated the Basic Policies on Corporate Governance based on the Corporate Governance Code that aims for transparent and efficient corporate management.

Initiatives to Strengthen Corporate Governance

Revisions to Management Structure

The business environment DENSO faces is approaching a paradigm shift, which is said to occur once every 100 years. With the aim of promoting decision-making and business execution that can anticipate future changes, the Company has made revisions to its management structure.



Enhancing Effectiveness

Since the appointment of outside directors, DENSO has given thorough consideration to the transparency of information in such ways as providing explanations to the outside directors regarding important agenda items before Board of Directors' meetings. In doing so, DENSO has made concerted efforts to substantially improve the effectiveness of the Board of Directors so that open-minded discussions can be held.

In fiscal 2017, DENSO reduced the number of directors from 13 to 9 so that it may better respond to the fierce changes occurring in the business environment. The Company also separated and clarified the roles between members of the Board, who are responsible for management (decision-making and supervision), and senior executive directors and executive directors, who are responsible for the execution of business operations. Through these means, DENSO established a management structure that allows for swift decision-making. In addition, DENSO changed the timing of senior executive directors' and executive directors' promotions to April, which marks the transition to the new fiscal year, with the aim of streamlining and clarifying executive responsibilities. The Company also put in place a structure that enables more strategic discussion and Board of Directors' meetings by transferring authority to directors in charge of business execution.

To further improve its governance, DENSO will continue to examine the best kind of management structure and work to establish such a structure.

Corporate Governance System

System Overview

The Company has established a management system that performs accurate decision-making and rapid business execution, while enabling proper oversight and monitoring.

As a system of decision-making for business execution, DENSO has established the Officer Meeting comprising the Board of Directors (which convenes once a month, in principle) as a “decision-making body” that resolves legal matters and important issues, as well as the Committee of Senior Executive Directors (which convenes once a week, in principle) as a “deliberative body” that deliberates on matters from a Companywide perspective and submits motions to the Board of Directors.

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 senior executive directors and executive directors, 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 senior executive directors and executive directors 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.

Moreover, we have strengthened our corporate governance system by establishing the Officer Nomination and Compensation Advisory Council as an ad-hoc committee that corresponds to the Nomination Committee or Compensation Committee in appointing directors and auditors and determining their compensation.

Overview of Corporate Governance System (As of June 20, 2017)

Format	Audit & Supervisory Board system
Number of directors	9
Chairman of the Board	Chairman
Number of outside directors	2
Term of directors	1 year
Number of Audit & Supervisory Board members	5
Number of outside Audit & Supervisory Board members	3
Number of meetings of the Board of Directors*	15
Number of independent officers	4

* Total for the period from April 2016 to March 2017

Dialogue with Outside Directors

The automotive industry is approaching a paradigm shift. The time for innovation is now, and DENSO is working to further enhance its governance from the perspectives of the entire Company and its stakeholders.

DENSO's two outside directors discuss the necessary steps for DENSO to take to further reinforce its governance as it approaches a period of significant changes in the business environment.

□ For detailed information, please consult pages 68–71 of the integrated report.



Outside Director
George Olcott

Outside Director
Takashi Nawa

Risk Management

Basic Stance

In keeping with the global expansion of business, the DENSO Group is striving to strengthen risk management as part of its internal control system 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 comprehensively 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 perspectives 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 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 Earthquake Disaster Risk Response (Formulating Business Continuity Plans*)

In Japan, a major earthquake is expected to occur in the near future. As such, DENSO is working to strengthen earthquake disaster risk response measures (i.e., formulating business continuity plans [BCPs]) for the entire DENSO Group from the perspective of business continuity management. The Company is also preparing an emergency situation manual and establishing measures for disaster reduction.

* 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.

Establishing a Safety, Health, and Environmental Management Structure to Minimize Work-Related Accidents, Fires, and Other Risks

In 1969, DENSO CORPORATION adopted fundamental principles of safety, health, and environmental management based on the premise that creating safe and ideal working conditions is the best way to realize both human dignity and high productivity. In the following year, the Company established the DENSO Safety, Health, and Environmental Standards, which have since then guided the Company's efforts to continuously improve workplace safety.

Additionally, DENSO is taking steps to establish a world-leading safety, health, and environmental management structure to minimize such risks as work-related accidents, explosions, and fires. These efforts include the practice of the PDCA (Plan, Do, Check, Act) cycle based on domestic and international occupational safety and health management system (OSHMS) standards.

Quality Assurance

Basic Stance

Since its founding, the DENSO Group has been dedicated to providing reliable, safe, and high-quality services that will satisfy customers and earn their trust based on a commitment under the DENSO Group Declaration of Corporate Behavior. 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 information collected by sales and technology departments from customers, we are continuously making efforts to enhance customer satisfaction in terms of quality, cost, and delivery.

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.

Specific Initiatives

Assuring the Quality of New Products—*Monozukuri* That Places the Utmost Priority on Ensuring Safety

To assure the quality of new products, specialized departments including quality control and production technology work in unison to strictly check quality by visualizing the degree of product completion and product risks.

Our design departments thoroughly conduct both safety designs, such as fail-safe designs,* and safety evaluations and work to promote system and product design pursuant to ISO 26262 certification for functional safety. Particularly, in the design stage, we conduct in-vehicle testing on the Company's test course under a range of conditions such as high-speed driving, rough roads, low temperatures, and icing, as well as various tests in our environmental testing room. By repeatedly carrying out these tests, we rigorously confirm the quality of our products.

Additionally, our functional departments clearly specify operational procedures, from product planning to production and shipment, and designate responsible departments for these procedures. At the same time, the functional departments strictly monitor compliance with applicable laws and regulations at each stage. When launching new products, in particular, the responsible departments are required to conduct safety evaluations based on internal regulations and to report on the results of legal compliance checks.

* A design philosophy requiring products to be controlled in a safe manner in the event of an accident or erroneous operation



Quality confirmation using evaluation equipment



Car driving test on country road at the DENSO Abashiri Test Center

Future Initiatives

Automotive technologies continue to evolve, as represented by ADAS, automated driving, connected cars, and other technologies. However, no matter how advanced automobiles become, our mission to provide high-quality products that help avoid traffic accidents will never change.

Going forward, we will continue to provide society with high-quality products and services by bolstering future-oriented quality assurance frameworks and initiatives with our sights always set on the future.

Encouraging an Active Role for Our Human Resources

Diversity

Basic Stance

DENSO's employee base comprises people of different genders, ages, nationalities, and career goals. This base also includes people with disabilities. Leveraging the rich individuality and different values of each employee as its organizational strength, DENSO aims to be a company in which a diverse group of global talent can exercise their abilities to the greatest extent possible. To this end, the Company realizes new value by encouraging interaction between employees with different ideas and strengths, actively creating opportunities for employees to learn from and cooperate with external organizations, and promoting honest discussion. DENSO believes that these kinds of efforts are necessary to realizing sustainable growth in this period of rapid change. Accordingly, the Company is taking steps to promote diversity.

Specific Initiatives

Promoting an Active Role for Female Employees

Aiming to be a company where female employees can enjoy an active role, DENSO is working to provide career support and innovate workstyles so that women can continue to advance their careers while fully partaking in every 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 our female employees have 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 targets female employees and their supervisors. This training encourages supervisors to work together with female employees to support their career development and consider ideal workstyles.

Going forward, we will continue to systematically hire and promote the development of women as we aim to increase the number of women in management positions to 100 by 2020 (a 300% increase compared with 2014; actual number of women in management positions in fiscal 2017: 53).

Health Management

Basic Stance

Good mental and physical health not only provides happiness to our employees and their families, it also represents the source for invigorating employees in their work.

Positioning the promotion of employee health as an important management issue, DENSO announced its Health Declaration*¹ in September 2016. In addition, the Company has adopted improvements in employee awareness of health promotion and the promotion of health management in the workplace as its Mid-term Policy 2018 and has also incorporated the approach of "health and productivity management."*² Furthermore, to encourage activities that promote employee health and raise the level of health awareness in the workplace, DENSO is working to enhance its health-related initiatives from the perspective of both mental and physical health.

*¹ To read the entire DENSO Health Declaration, please refer to the CSR section of the Company's website.

*² "Health and productivity management" is a registered trademark of the NPO Kenko Keiei Kenkyukai.

TOPICS

Included in the 2017 Health & Productivity Stock Selection and Certified in the Superior Health & Productivity Companies (the White 500) Program

DENSO was included in the 2017 Health & Productivity Stock Selection,*¹ a joint initiative carried out by the Ministry of Economy, Trade and Industry (METI) and the Tokyo Stock Exchange (TSE). In addition, the Company was certified in the Superior Health & Productivity Companies (the White 500) Program, which is promoted by the TSE and the Nippon Kenko Kaigi (Japan Health Council).*²

*¹ 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 for "health and productivity management."

*² 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.



Environmental Management

The number of car owners is expected to increase in the future, centered on emerging nations. Against this backdrop, DENSO believes that its mission as a member of the automotive industry is to minimize greenhouse gases.

To preserve the global environment and realize growth as an organization, we aim to become a corporate group that can contribute to the creation of an advanced motorized society. To this end, we will work to reduce our environmental footprint in all areas of our business. At the same time, we will promote “environmental management,” which strives for world-leading environmental efficiency and the creation of economic value through the pursuit of higher resource productivity.

Basic Stance

Every 10 years, DENSO formulates its DENSO Eco Vision to demonstrate its long-term commitment and to serve as its environmental policy for the environmental management to which the Group aspires. Every five years, DENSO defines an Environmental Action Plan to embody the commitment and environmental policy set out in its Eco Vision.

DENSO Eco Vision 2025

DENSO has formulated the new DENSO Eco Vision as an action plan toward realizing sustainable regions and societies in 2050. This latest Eco Vision sets three targets (Target 3) to be achieved in 2025: ENERGY 1/2; CLEAN × 2; and GREEN × 2. The Company will also promote 10 specific actions (Action 10) to realize these three targets in the respective categories of products, factories, associates (employees), and management.

Three Targets (Target 3)



Aim to halve CO₂ emissions by technologies that resolve global warming as well as energy and resource issues



Aim to halve the amount of environmentally hazardous substances, discharge, and waste through the continuous promotion of improvements



Aim to create environment-friendly communities through business activities that realize a harmonious coexistence with nature

Action 10



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