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Integrated Report



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> DENSO is making efforts for accomplishing the globally shared SDGs.



















8701PK-016 June 2023







Our mission is to contribute to a better world. We want to help power society's shift to green, safe and worry-free mobility. Everything we do is to advance us toward our Two Great Causes - Green and Peace of Mind.

To achieve our vision for Green, we aim to achieve net-zero CO<sub>2</sub> emissions and a carbon-neutral society by capturing CO<sub>2</sub>, both in our production facilities and with our products. For Peace of Mind, we aim to realize zero traffic fatalities. In both domains, we will achieve our ultimate goal of zero.

With global issues, such as environmental problems and resource shortages, becoming more serious, we seek to deliver value by contributing to the mobility field and a recycling-oriented society. We will strive to increase the value of mobility and beyond.

In the future, as vehicles become more advanced and connected to drivers and infrastructure, we must create new products and services quickly by combining diverse technologies. We will strengthen our ability to adapt to change, continue to create new value with our partners, and increase recycling for mobility and society as a whole.

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## DENSO at a Glance A Quick Guide to DENSO

History to the present

### Management Foundation & Policy

Since our founding in 1949, we have built our foundation on "DENSO Quality First." We operate our business based on our long-term policy.

1949

1953



NIPPONDENSO CO., LTD., split from Toyota Motor Co., Ltd., and was established as a separate entity

Started technical cooperation

with Robert Bosch GmbH of

This agreement allowed us to expand

nowledge from outside the company,

to achieve world-class engineering.

our technical expertise using

1956 Created the mission statement on which DFNSO is founded

It was established in order to maintain and further develop the spirit of our founding.

### 1996

Adopted our new corporate name, DENSO CORPORATION

The company name was changed from NIPPONDENSO to DENSO. Removing "Nippon," the Japanese word for Japan, reflects our aims of being a truly global company.

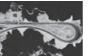
Received the Deming Prize, one of the most prestigious awards for quality control

The efforts made by all of our employees to win the prize laid the foundations for our culture based on the concept of "Quality First."

### 2017

Created the DENSO Group Long-term Policy 2030

The slogan of this plan is "Bringing hope for the future for our planet, society and all people."



Opened Nukata Proving Ground

We opened a test course at a comparatively early stage for a parts manufacturer. We have evaluation facilities equivalent to those of automakers, to help us ensure product performance and quality that exceeds our customers' expectations.

### 1991

Opened DENSO Research Laboratories

We carry out R&D on new technologies that may emerge in the next 5 to 20 years. Our research covers a range of topics, from semiconductor materials to microalgae that produce oil.

### 2015

Establishment of the global R&D system

DENSO develops cutting-edge technologies and products in collaboration with internal and external partners, including automakers, research institutes. and universities, through its global technical centers (located in Japan. the U.S., Germany, China, Thailand, India, and Brazil).

### **Employees**

Present

**DENSO** in figures

165,000

Consolidated Revenue

¥6.4 trillion

World-First Products

over 130

Patents Held 41,000

Medals at the WorldSkills Competition

Global Network

35 countries and regions

Overseas Revenue Ratio

**56**%

### R&D. Manufacturing

We strive to develop technologies with a vision of the future. We continue to improve our manufacturing capabilities to make the impossible possible.

**Global Deployment** 

We were quick to launch in



Established the Technical Fraining Center

Germany

The principles of "Monozukuri is Hitozukuri (our performance relies on our people)" and "engineering and technique, hand in hand" are still being practiced today.



Established the IC Research Center

1961

In-house R&D of integrated circuits (IC) was aunched at an early stage, in anticipation of electronic control for automotive components. Today, electronic components are some of the main products that we sell.



Established a sales office in Chicago and branch offices in Los

The first sales office outside of Japan was established in anticipation of global trends such as trade liberalization.



Established NIPPONDENSO (AUSTRALIA) PTY. LTD., and NIPPONDENSO THAILAND CO., LTD., our first manufacturing companies located outside of Japan

customers, in order to better meet their needs.

### **DENSO Spirit**

2004

The DENSO Spirit is one of foresight, credibility, and collaboration. It 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.

### 2016

### Introduced a global common personnel management system

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

# Ve are in the pursuit of "zero" in the fields of peace of mind. Zero traffic fatalities

Future

Future vision

green" and

various countries to meet the needs of customers. We

operate both manufacturing plants and R&D centers all over the world.

We decided to manufacture products near to our

### Green

### Aiming to become Carbon Neutral by 2035

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

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

## Monozukuri (Manufacturing)

### Realize complete carbon neutrality at our plants

We will reduce  $CO_2$  emissions by utilizing renewable energy such as solar power and enhancing the efficiency of our manufacturing process. In addition, we aim to realize complete carbon neutrality at our plants, without the use of carbon credits, by capturing the  $CO_2$  emitted in the production process and reusing it as energy.



# **Mobility Products**

### Contribute to the electrification of vehicles to reduce CO<sub>2</sub> emissions to the greatest extent possible

We will help popularize HEVs, BEVs, FCEVs, and other electrified vehicles (xEVs) by advancing products powered by electricity. In addition, we will apply the electrification technologies cultivated in the automotive industry to the field of air mobility in an effort to significantly reduce  $CO_2$  emissions in all facets of mobility.





# **Energy Use**

### Realize an energy-recycling society through the development and popularization of technologies that make effective use of renewable energy

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



### Promotion of a business model that contributes to the carbon neutrality of Mobility, Industry, and Society at large

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







Realize optimized energy management for mobility by leveraging our system building capabilities based on the three-pronged approach of mechanical parts, electronics, and software 2. Realize carbon neutrality at our plants through the utilization of innovative energy saving technologies and renewable energy and the introduction of green energy

**3.** Expand carbon-neutral plants, together with our partner companies, through the use of our energy utilization technologies and other measures

A. Provide new value through energy management and new businesses that form links between mobility, industry, and social infrastructure (society), by refining the technologies we have cultivated in mobility and industry and applying them to social domains

# Peace

### Aiming to become a leading company that provides "Peace of Mind" to society

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

### Elimination of Fatalities from Traffic **Accidents**

### Popularize safety products through efforts focused on "depth" and "width," thereby realizing free mobility without fatalities from traffic accidents

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



### Creation of Comfortable **Spaces**

### Enhance relevant technologies for creating peaceful, comfortable spaces

Following the progression of autonomous driving, there has been a growing need for providing vehicles not simply as a means of transportation but also as a "private space that enables mobility." To that end, DENSO seeks to create comfortable spaces by realizing safe and secure air quality\*.

\*Provide spaces with AQI (Air Quality Index) of less than 50



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

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







### Development of Global Safety Package 3 to further advance and popularize safety products

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

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



### Enhancement of vehicle safety performance

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

As a comprehensive systems supplier that handles everything from hardware to software, we gather together experts in each field of systems we handle to identify issues from their respective perspectives and examine measures to resolve such issues. Through this approach, we were able to successfully develop GSP3. Going forward, we will promote technological development pertaining to advanced driver support so that we can realize mobility that is safe and free for all people, starting with drivers and pedestrians.

**Business Overview** 

DENSO operates seven core businesses in a broad range of domains, centered on automotive-related fields. The Company has established a business portfolio for creating new value that can address the future needs of the mobility society. Through this portfolio, DENSO strives to maximize value in its seven core businesses so that it can enhance the potential of the mobility society. Going forward, DENSO will take steps to reshuffle its business portfolio in order to realize sustainable growth under a rapidly changing business environment.

	Segment	Contribution to Long-term Policy (value of green and peace of mind)	Revenue by Product (Ratio)
Automotive Businesses	Electrification Systems	Green	¥1 trillion (16.3%)
	Powertrain Systems	Green	¥1.5 trillion (23.3%)
	Thermal Systems	Green Peace of Mind	¥1.6 trillion (24.8%)
	Mobility Electronics	Green Peace of Mind	¥1.6 trillion (25.2%)
	Advanced Devices	Green Peace of Mind	¥400 billion (5.6%)
Non- automotive	Factory Automation	Peace Green of	¥200 billion
Businesses	Food Value Chain	Mind	(2.8%)

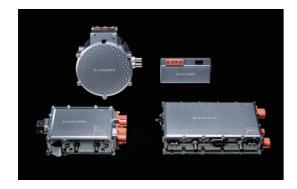
### **Electrification Systems**











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

To deliver electrification systems for vehicles that are eco-friendly and enable even more comfortable travel, we have built up a solid track record with the development of electrification technologies, realizing high performance, compactness, and fuel efficiency for the major products needed for electrified vehicles. 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.

### Business Activities

- Development and manufacture of electrified vehicles' drive systems, power supply systems, and aircraft propulsion systems
- Development and manufacture of electric power steering motors, control brake motors, and electric control
- Development and manufacture of various kinds of small motor system products, such as windshield wiper systems, power window motors, engine control motors, and blower fans

#### Features

It has become increasingly important to improve the environmental performance of vehicles as electrification intensifies. DENSO offers the full range of components used in electric drive systems, the these existing assets, DENSO Manuheart of electric vehicles. Our system facturing Tennessee, Inc. (U.S.A.) began development capabilities involve having a thorough understanding of how each hardware component in a vehicle is Electrical Products Co., Ltd. (China) in used and being able to incorporate that knowledge so that higher levels of performance and reliability can be realized as a whole, satisfying diverse market needs.

### Global production and

From approximately 50 bases in 19 countries including Japan, DENSO supplies high-quality products to customers around the world. Maximizing manufacturing electrified products in 2019, followed by Tianjin DENSO Engine 2021. Looking ahead, we will strengthen its production and supply structure for electrified products in Europe and India, where growth is gaining momentum.

#### Manufacturing for a new era

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

### Powertrain Systems











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

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

#### 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 valve-related products, such as variable cam timing (VCT) systems and exhaust gas sensors; and products for drive systems, such as oil pressure control valves

#### Features

R&D capabilities that have led clopment of world-first products and advanced powertrains

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

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

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

### Thermal Systems













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

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

#### Business Activities

- Development and manufacture of air-conditioning systems for passenger and commercial vehicles
- Development and manufacture of air quality products, etc., that provide comfortable spaces
- Development and manufacture of cooling products, such as radiators and inverter coolers
- Development and manufacture of thermal management systems and heat pump systems

#### Features

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### Thermal management technology

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

### Moving from quantity to quality manufacturing

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

#### Global Network

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

### **Mobility Electronics**













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

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

#### Business Activities

- Development and manufacture of environmental products, such as Engine ECUs, HEV ECUs, BEV ECUs, and Body ECUs
- Development and manufacture of HCUs,<sup>11</sup> meters, HUDs,<sup>22</sup> CIDs,<sup>13</sup> ETC<sup>14</sup> systems for vehicles, road-to-vehicle and vehicle-to-vehicle communication devices, vision sensors, millimeter-wave radar sensors, sonar sensors, self-driving car ECUs, airbag sensors & ECUs, DSMs,<sup>15</sup> and other safety-related products
- Development and provision of mobility-related electronic systems and platforms

#### Features

### Ability to create large-scale integrated systems from an all-vehicle perspective

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

### Product development capabilities with reliability and sophistication accumulated in automotive products

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

#### Global Network

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

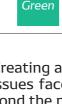
### **Advanced Devices**

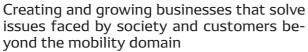












As a company reorganized to go beyond technologies and focus more on helping society and our customers, we are collaborating on the sensing and actuation fronts, and enhancing the value of systems through semiconductors that leverage our strengths derived from vertical integration. While creating new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



- Development and manufacture of transmission hydraulic control valves, shift-by-wire system actuators, and other drive-related products
- Development and manufacture of energy management products, such as BEV/engine coolant water volume
- Development and manufacture of microelectronic devices, such as in-vehicle power semiconductors, semiconductor sensors, and custom integrated circuits (ICs)

#### Features

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Creation of new value with sensing and actuation

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

production of semiconductors

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

production technologies highly resilier o changes in specifications and volum

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

### **Factory Automation**













### Enhancing the productivity of the Monozukuri (manufacturing) industry and improving quality of life

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

### 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 (building access management systems, automated checkout systems for company cafeterias, facial recognition systems, etc.)

#### Features

Production assets thoroughly refined at manufacturing sites of global 130 plant

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

Monozukuri know-how that has supported DENSO's products for more than 70 years

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

Safe and secure solutions for society using QR Codes developed by DENSO

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

### **Food Value Chain**













Combining technologies and ideas to provide new value and contribute to a society where all people can live safely and with peace of mind

Food is essential to human life. Together with our business partners, while observing the entire food value chain, we will provide solutions that deliver food safety and security to each region of the world, anytime, anywhere, and to anyone, forever.

### Business Activities

- Manufacture and sale of turnkey solutions for horticultural facilities (consulting and cloud services related to greenhouse materials, devices, and cultivation) as well as the provision of after-sales services
- Manufacture and sale of in-vehicle refrigeration units and compact mobile refrigeration units as well as the provision of after-sales services
- Building and sale of systems for digitization of food distribution and data-linked services

\* A lineup of products and services combined in an optimized way to enable all people involved in agriculture to produce crops in a stable manner

#### Features

Greenhouses that ensure reliable harvests while dealing with labor shortages and climate change

By applying our Monozukuri technologies gained with automobiles to agricultural production, we are supporting technologies that condition environments for reliably harvesting agricultural products. We introduce automation technologies to trucks, which come in many variations, create environments where people can we offer compact mobile chillers that move around easily, and globally supply solutions for greenhouses in a highly productive way that sustains growth.

High-quality, versatile chillers for vehicles that help deal with driver shortages and delivery diversification

Since the launch of operations for automotive chillers in 1972, DENSO has sold more than 200,000 chiller units, focusing on high-quality, high-efficiency Monozukuri. In addition to chillers for can be nimbly used for deliveries by regular drivers in passenger cars for smalllot deliveries that have diversified in recent years.

New distribution DX solutions

Utilizing the QR code and RFID technologies we accumulated with automobiles, we are digitizing diverse information related to food in order to visualize food distribution information from production to sale, in response to consumer needs for safe and secure food. We also offer a straight-through food distribution platform that facilitates supply-demand optimization in inefficient distribution operations and rightsizes inventories.

Foundation for Creating New Value















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. Even as the business environment changes, DENSO will further enhance these strengths as the driving force behind value creation that is uniquely DENSO.











### Hitozukuri

Based on the idea that "the best products are made by the best human resources," we have been instilling the DENSO Spirit, our DNA, in all employees in an effort to cultivate personnel who can tackle the issues they face and create new technologies and products without fearing change.



### Boldly taking on new challenges no matter what the circumstances

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



# Introducing a global common personnel management system to promote the active role of a diverse group of employees

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



### Nurturing advanced technicians as the key to corporate growth

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

# Research and Development

Through the accumulation of a long research and development (R&D) track record, which has supported our cutting-edge automobile 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.



### Creating over 130 world-first products

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



### Technical centers in seven regions throughout the world and laboratories in epicenters of innovation

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



### Advanced research that estimates and anticipates the future mobility society

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

### Monozukuri

Through our *Monozukuri* (manufacturing) 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 semiconductors that require a high level of accuracy.



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



### Working to improve productivity that connects people and factories globally

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



### Promoting EF activities focused on eliminating product defects and lost operational time

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

### Sustainability Management

For DENSO, sustainable management means incorporating SDGs and other perspectives into management strategies, and through their implementation, enhancing corporate value. We will continue to practice sustainable management and aim to enhance DENSO's corporate value through the realization of sustainable growth of society.



### Accelerating efforts toward sustainability management

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

### Long-term Policy for 2030

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

### Promotion structure for sustainability management

At DENSO, the Corporate Strategy Division is responsible for the corporate-wide function of promoting sustainability management. This division is involved in such effort as drafting policies and action plans related to sustainability, providing follow-up support for the sustainability activities of each division, and engaging in internal and external communication. Furthermore, matters such as the direction of sustainability management and the status of companywide sustainability activities are reported to and deliberated on by the company's formal committees (such as the Management Deliberation Meeting) and overseen by the Board of Directors. In addition, the divisions in charge of individual sustainability themes promote activities to address these themes in collaboration with relevant divisions and after deliberation on said themes by each expert committee.

Corporate Data

Company Profile Main Facilities in Japan As of March 31, 2023 As of April 1, 2023

Company name	DENSO CORPORATION		
Established	December 16, 1949		
Head Office	1-1, Showa-cho, Kariya, Aichi 448-8661, Japan		
Capital	¥187.5 billion		
Revenue	Consolidated basis ¥6,401.3 billion (US\$47.9 billion)*1		
Operating Profit	Consolidated basis ¥426.1 billion (US\$3.2 billion)*1		
Profit*2	Consolidated basis ¥314.6 billion (US\$2.4 billion)*1		
Employees	Consolidated basis: 164,572 Non-consolidated basis: 44,758		
Consolidated Subsidiaries	190 (Japan 59, North America 20, Europe 27, Asia 77, Others 7)		
Affiliates under the Equity Method	83 (Japan 22, North America 11, Europe 18, Asia 28, Others 4)		
Fiscal Year	From April 1 to March 31		

<sup>\*1:</sup> U.S. dollar amounts have been translated, for convenience only, at the rate of 133.53 yen = US\$1, the approximate exchange rate prevailing on March 31, 2023. Billion is used in the American sense of one thousand million.

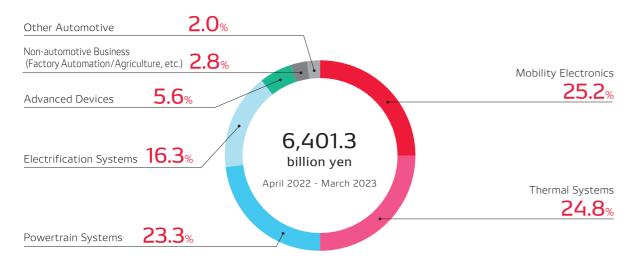
\*2: Profit attributable to owners of the parent company.

Headquarters / Plants / Laboratories	Employees	Main Business	
Headquarters	12,581	-	
Anjo Plant	5,766	Manufacture starters, alternators, inverters, motor generators, electric power steering motors	
Nishio Plant	7,682	Manufacture car air-conditioners, radiators, electronic diesel/gasoline fuel injection components	
Takatana Plant	3,755	Manufacture of instrument clusters, head-up displays, millimeter-wave r sensors, vision sensors, power modules, various sensors components	
Kosai Plant	3,838	Manufacture of compact motors for wiper systems, power windows, etc.	
Daian Plant	5,240	Manufacture of ignition components, advanced safety products, valve to components, exhaust emission control components	
Kota Plant	3,875	Manufacture semiconductor wafers, integrated circuits and electronic corcomponents	
Toyohashi Plant	1,198	Functional parts for car air-conditioners and water pump for fuel-cell vehicle a servo motor module and CO <sub>2</sub> heat pump hot water supply systems	
Hirose Plant	1,254	Manufacture of inverters, ECUs and power semiconductors	
Agui Plant	811	Manufacture of machinery and tools	
Toyohashi East Plant	808	Manufacture of compact motors for blowers, cooling fans, etc.	
Zenmyo Plant	1,873	Manufacture electronic diesel/gasoline fuel injection systems	
Advanced Research and Innovation Center	224	Research in functional materials, Al and ergonomics	
Global R&D Tokyo	199	R&D in advanced driver assistance systems, connected fields, and automotiv electronic systems fields	
Global R&D Tokyo, Haneda	109	Advanced mobility development	
Nukata Proving Ground	30	Test driving for automotive components	
Obu Technology Training Institute	20	Engineers training	
Shin Yokohama Innovation Lab	16	Research and development of cloud services	

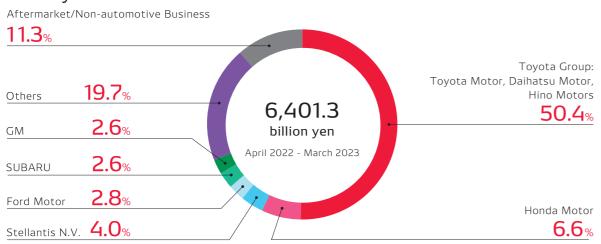
Offices/Divisions/Branches						
Tokyo Office	Osaka Division	Iwate Branch	Muromachi Branch	D-Square Branch		
Tokyo Division	Hiroshima Division	Kobe Branch	Takamatsu Branch			
Tokyo Division Utsunomiya Office	Nagoya Office	Nagoya Minami Branch	Kohoku Branch			

### Financial Data

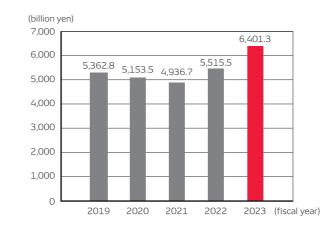
### Consolidated Revenue by Business Group



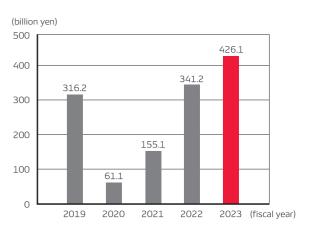
### Sales by Customers



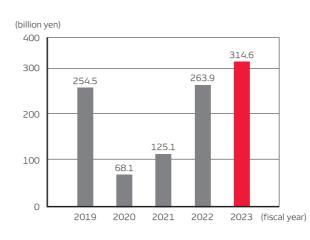
### Revenue



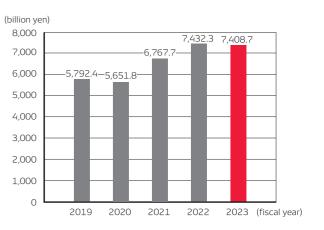
### **Operating Profit**



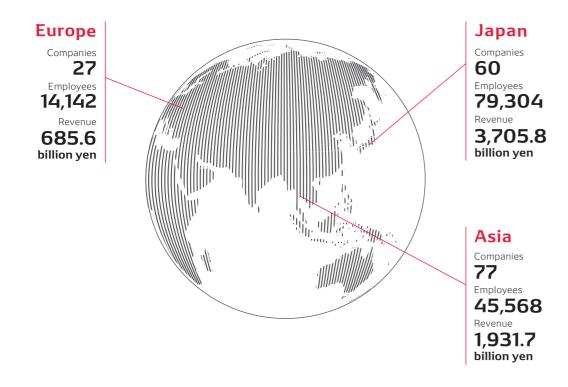
### Profit



### **Total Assets**



### Global Network



### Revenue by Segment

